# WOLF

*Automatic digital measuring and monitoring system for FM networks*

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# User manual

## Installation and use of the Wolf device and software

(Rev. 1.1 ENG)

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# THANK YOU FOR CHOOSING AXEL TECHNOLOGY
# WOLF

The Wolf is the leading automatic digital measuring and monitoring system for FM networks. It can monitor analog audio signals, AES/EBU and MPX + RDS or RBDS digital signals and RF signals. It monitors the quality of the FM signal transmitted in off-air mode and is a powerful and intelligent automatic changeover device that works between all inputs. It filters all RDS units and - using a local coder - it regenerates a UECP stream for other coders, as well as managing alarms, and its switching policy is user-settable. It is combinable with WOLF networks for comparative measurements and automatic tests on the network, with on-air mode option. Wolf features the following inputs: 2 analog audio, 2 AES/EBU audio, MPX 3, 1 Tuner. Outputs featured are: 2 analog audio and 2 AES/EBU audio.  It includes: 2 quality MPX decoders, 4 MPX detectors, 3 RS232 ports, 2 RDS decoders, 4 GPIO interfaces and 4 relays. All contained in a single device, the WOLF

Summing up, the WOLF offers:
* Dual stereo analog audio input with bandwidth 20Hz - 20Khz.
* Dual AES/EBU digital audio input with sampling frequency 44.1kHz to 96kHz.
* Dual MPX input with bandwidth up to 59Khz.
* Dual stereo analog audio output with bandwidth 20Hz -20Khz.
* AES/EBU digital stereo output with bandwidth 20kHz (and sampling frequency 44.1kHz to 96kHz).
* Digital Stereo MPX decoder.
* Built-in FM tuner.
* Built-in RDS decoder
* Input for external tuner (for use of a higher quality FM receiver than the built-in one).
* Ethernet interface with web server, SNMP agent and UECP connection via LAN, UECP connection via SNMP and TFTP support for remote programming.
* Dual decoupled RS232 serial protocol for UECP protocol, with UECP channel generating option
* Monodirectional operation from a TCP/IP connection, or SNMP to propagate the UECP channel to other devices in the station.
* General purpose interface with 8 decoupled inputs
* General purpose interface with 8 decoupled outputs
* General purpose interface with 4 SPDT relays
* Optional Breakout Box with transformer decoupled analog audio inputs, inputs/output hardware bypass function, inputs and outputs on XLR balanced line connector.
* Optional Breakout Box with transformer decoupled AES/EBU digital audio inputs and outputs, inputs/output hardware bypass function, inputs and outputs on XLR balanced line connector.
* External MPX changeover module (optional) for automatic MPX signal switching.
* Measurement module for RMS and Audio signal peak.
* 2 measurement modules for RMS and signal peak and ITU B412 power on MPX signals.
* UECP mixer module and UECP command sequencer with annual programming.

# 1   SAFETY WARNINGS / ISTRUZIONI PER LA SICUREZZA

# SAFETY WARNINGS

# CONSIGNES DE SÉCURITÉ IMPORTANTES

# ISTRUZIONI IMPORTANTI PER LA SICUREZZA

# WICHTIGE SICHERHEITSHINWEISE

# INSTRUCCIONES IMPORTANTES DE SEGURIDAD

(Rel. 1.3)

## 1.1   FOREWORD

**For your own safety and to avoid invalidation of the warranty all text marked with these Warning Symbols should be read carefully.**

Information in this manual is subject to change without notice and does not represent a commitment on the part of the vendor.

The manufacturer shall not be liable for any loss or damage whatsoever arising from the use of information or any error contained in this manual, or through any mis-operation or fault in hardware contained in the product.

It is recommended that all maintenance and service on the product should be carried out by the manufacturer or its authorised agents. The manufacturer cannot accept any liability whatsoever for any loss or damage caused by service, maintenance or repair by unauthorised personnel.

# 2   SAFETY WARNINGS

*The installation and servicing instructions in this manual are for use by qualified personnel only.*

- **Read All Instructions.** All safety and operating instructions must be read before operating the product. They also must be retained for future reference, as it contains a number of useful hints for determining the best combination of equipment settings for Yr particular application.

- **Heed All Warnings**. All warnings on the product and those listed in the operating instructions must be adhered to.

- **Heat**. This product must be situated away from any heat sources such as radiators or other products (including power amplifiers or transmitters) that produce heat.

- **Power Sources.** This product must be operated from the type of power source indicated on the marking label and in the installation instructions. If you are not sure of the type of power supplied to your facility, consult your local power company. Make sure the AC main voltage corresponds to that indicated in the technical specifications. If a different voltage (ex. 110/115 VAC) is available, open the equipment closure and set the voltage switch on the main supply circuit, located behind the AC socket

- **Power Cord Protection.** Power supply cords must be routed so that they are not likely to be walked on nor pinched by items placed upon or against them. Pay particular attention to the cords at AC wall plugs and convenience receptacles, and at the point where the cord plugs into the product

- **Use only with a cart,** stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.

- **Lightning**. For added protection for this product during a lightning storm, or when it is left unattended and unused for long periods of time, unplug it from the AC wall outlet and the audio connections. This will prevent damage to the product due to lightning and power line surges

- **Installation**. Configuration and installation should only be carried out by a competent installation engineer

- **Cabling**. Using high quality wires, well protected. Make sure the cable integrity.


**This symbol alerts you to the presence of dangerous voltage inside the closure – voltage which may be sufficient to constitute a risk of shock. Do not perform any servicing other than that contained in the operating instructions. Refer all servicing to qualified personnel**


**The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance**.


**Do not change the voltage setting or replace the mains fuse without first turning the unit off and unplugging the mains cord**


**Make sure the AC main voltage corresponds to that indicated in the technical specifications. THIS APPARATUS MUST BE EARTHED !**


**To avoid risk of fire use the correct value fuse, as indicated on the label stuck on the right side of the unit.**


**This apparatus uses a single pole mains switch and does therefore not separate the unit completely from the mains power. To completely separate from mains power (f.i. in the event of danger) unplug mains power cord. As the MAINS plug is the disconnect device, the disconnect device shall remain readily operable.**

# 3   CONSIGNES DE SÉCURITÉ IMPORTANTES

- **Lire ces consignes**

- **Conserver ces consignes**

- **Observer tous les avertissements**

- **Suivre toutes les consignes**

- **Ne pas utiliser cet appareil à proximité de l'eau**

- **Ne pas obstruer les ouvertures de ventilatio**n. Installer en respectant les consignes du fabricant

- **Ne pas installer à proximité d'une source de chaleur** telle qu'un radiateur, une bouche de chaleur, un poêle ou d'autres appareils (dont les amplificateurs) produisant de la chaleur.

- **Ne pas annuler la sécurité de la fiche de terre**, la troisième branche est destinée à la sécurité. Si la fiche fournie ne s'adapte pas à la prise électrique, demander à un électricien de remplacer la prise hors normes.

- **Protéger le cordon d'alimentation** afin que personne ne marche dessus et que rien ne le pince, en particulier aux fiches, aux prises de courant et au point de sortie de l'appareil

- **Utiliser uniquement les accessoires spécifiés par le fabricant**

- **Utiliser uniquement avec un chariot**, un support ou une table spécifié par le fabricant ou vendu avec l'appareil. Si un chariot est utilisé, déplacer l'ensemble chariot–appareil avec précaution afin de ne pas le renverser, ce qui pourrait entraîner des blessures

- **Débrancher l'appareil** pendant les orages ou quand il ne sera pas utilisé pendant longtemps.

- **Confier toute réparation à du personnel qualifié.** Des réparations sont nécessaires si l'appareil est endommagé d'une façon quelconque, par exemple: cordon ou prise d'alimentation endommagé, liquide renversé ou objet tombé à l'intérieur de l'appareil, exposition de l'appareil à la pluie ou à l'humidité, appareil qui ne marche pas normalement ou que l'on a fait tomber.

- **NE PAS exposer cet appareil aux égouttures et aux éclaboussements**. Ne pas poser des objets contenant de l'eau, comme des vases, sur l'appareil

**Ce symbole indique la présence d'une tension dangereuse dans l'appareil constituant un risque de choc électrique.**

**Ce symbole indique que la documentation fournie avec l'appareil contient des instructions d'utilisation et d'entretien importantes.**

**Avant de modifier le commutateur de changement de tension ou replacer le fusible il faut débrancher l'appareil de la prise électrique. Pendant son usage, l'appareil doit etre branchee à la prise de terre**

**Utiliser le fusible principal AC avec le valeur qui est indiquée sur l'étiquette collée sur le coffret.**

**Assurez-vous que la tension principale AC correspond à celle indiquée dans les spécifications techniques.**

**L'interrupteur d'alimentation interrompt un pôle du réseau d'alimentation excepté le conducteur de terre de protection. En cas de danger, debrancher le cordon d'alimentation. Parce que la prise du réseau de alimentation est utilisée comme dispositif de déconnexion, ce dispositif doit demeuré aisément accessible**

# 4   ISTRUZIONI IMPORTANTI PER LA SICUREZZA

- **Leggere le presenti istruzioni**

- **Conservare queste istruzioni**

- **Osservare tutte le avvertenze**

- **Seguire scrupolosamente tutte le istruzioni**

- **Non usare questo apparecchio in prossimità di acqua**

- **Non ostruire alcuna apertura per il raffreddamento**. Installare l'apparecchio seguendo le istruzioni

- **Non installare l'apparecchio accanto a fonti di calore** quali radiatori, aperture per l'afflusso di aria calda, forni o altri apparecchi (amplificatori inclusi) che generino calore

- **Non rimuovere il terminale di connessione a terra sul cordone di alimentazione**: esso ha lo scopo di tutelare l'incolumità dell'utilizzatore. Se la spina in dotazione non si adatta alla presa di corrente, rivolgersi ad un elettricista per far eseguire le modifiche necessarie.

- **Evitare di calpestare il cavo di alimentazione o di comprimerlo**, specialmente in corrispondenza della spina e del punto di inserzione sull'apparato.

- **Utilizzare solo dispositivi di collegamento e gli accessori specificati dal produttore.**

- **Utilizzare l'apparecchio** solo con un carrello, un sostegno, una staffa o un tavolo di tipo specificato dal produttore o venduto insieme all'apparecchio. Se si utilizza un carrello, fare attenzione negli spostamenti per evitare infortuni causati da ribaltamenti del carrello stesso.

- **Scollegare l'apparecchio dalla presa di corrente** durante i temporali o quando inutilizzato a lungo

- **Per qualsiasi intervento**, rivolgersi a personale di assistenza qualificato. È' necessario intervenire sull'apparecchio ogniqualvolta si verificano danneggiamenti di qualsiasi natura. Ad esempio, la spina o il cavo di alimentazione sono danneggiati, è entrato liquido nell'apparecchio o sono caduti oggetti su di esso, l'apparecchio è stato esposto alla pioggia o all'umidità, non funziona normalmente o è caduto.

- **Non esporre a sgocciolamenti o spruzzi**. Non appoggiare sull'apparecchio oggetti pieni di liquidi, ad esempio vasi da fiori.

*Questo simbolo indica la presenza di alta tensione all'interno dell'apparecchio, che comporta rischi di scossa elettrica.*

*Questo simbolo indica la presenza di istruzioni importanti per l'uso e la manutenzione nella documentazione in dotazione all'apparecchio.*

**Non sostituire il fusibile o cambiare la tensione di alimentazione senza aver prima scollegato il cordone di alimentazione. L'APPARATO DEVE ESSERE CONNESSO A TERRA.**

**Sostituire il fusibile generale con uno di identico valore, come indicato sulla etichetta applicata sul mobile dell'apparato**

**Assicurarsi che la tensione di rete corrisponda a quella per la quale è configurato l'apparecchio**

**Questo apparato utilizza un interruttore di alimentazione di tipo unipolare e l'isolamento dalla rete elettrica non è pertanto completo. Per ottenere un isolamento totale (ad esempio in caso di pericolo), scollegare il cordone di alimentazione. Inoltre, poichè la spina di alimentazione è utilizzata come dispositivo di sezionamento, essa deve restare facilmente raggiungibile**

# 5  WICHTIGE SICHERHEITSHINWEISE

- **Diese Hinweise LESEN**

- **Diese Hinweise AUFHEBEN**

- **Alle Warnhinweise BEACHTEN**

- **Alle Anweisungen BEFOLGEN**

- **Dieses Gerät NICHT in der Nähe von Wasser verwenden**

- **KEINE Lüftungsöffnungen verdecken**. Gemäß den Anweisungen des Herstellers einbauen

- **Nicht in der Nähe von Wärmequellen**, wie Heizkörpern, Raumheizungen, Herden oder anderen Geräten (einschließlich Verstärkern) installieren, die Wärme erzeugen

- **Die Schutzfunktion des Schukosteckers NICHT umgehen**. Bei Steckern für die USA gibt es polarisierte Stecker, bei denen ein Leiter breiter als der andere ist; US-Stecker mit Erdung verfügen über einen dritten Schutzleiter. Bei diesen Steckerausführungen dient der breitere Leiter bzw. der Schutzleiter Ihrer Sicherheit. Wenn der mitgelieferte Stecker nicht in die Steckdose passt, einen Elektriker mit dem Austauschen der veralteten Steckdose beauftragen

- **VERHINDERN, dass das Netzkabel gequetscht oder darauf getreten wird**, insbesondere im Bereich der Stecker, Netzsteckdosen und an der Austrittsstelle vom Gerät

- N**UR das vom Hersteller angegebene Zubehör** und entsprechende Zusatzgeräte verwenden.

- **NUR in Verbindung** mit einem vom Hersteller angegebenen oder mit dem Gerät verkauften Transportwagen, Stand, Stativ, Träger oder Tisch verwenden. Wenn ein Transportwagen verwendet wird, beim Verschieben der Transportwagen-Geräte- Einheit vorsichtig vorgehen, um Verletzungen durch Umkippen

- **Das Netzkabel dieses Geräts** während Gewittern oder bei längeren Stillstandszeiten aus der Steckdose ABZIEHEN.

- **Alle Reparatur- und Wartungsarbeiten** von qualifiziertem Kundendienstpersonal DURCHFÜHREN LASSEN. Kundendienst ist erforderlich, wenn das Gerät auf irgendwelche Weise beschädigt wurde, z.B. wenn das Netzkabel oder der Netzstecker beschädigt wurden, wenn Flüssigkeiten in das Gerät verschüttet wurden oder Fremdkörper hineinfielen, wenn das Gerät Regen oder Feuchtigkeit ausgesetzt war, nicht normal funktioniert oder fallen gelassen wurde.

- **Dieses Gerät vor Tropf- und Spritzwasser SCHÜTZEN**. KEINE mit Wasser gefüllten Gegenstände wie zum Beispiel Vasen auf das Gerät STELLEN.

*Dieses Symbol zeigt an, dass gefährliche Spannungswerte, die ein Stromschlagrisiko darstellen, innerhalb dieses Geräts auftreten.*

*Dieses Symbol zeigt an, dass das diesem Gerät beiliegende Handbuch wichtige Betriebs- und Wartungsanweisungen enthält.*

**Vor Änderung der Netzspannung oder Sicherungswechsel Netzkabel trennen.**
**Das Gerät muss für den Betrieb geerdet werden.**

**Hauptsicherung nur mit einer gleichwertigen austauschen**
**(s. entsprechende Etikette).**

**Vor Einschalten Netzspannungseinstellung am Gerät überprüfen bzw. anpassen.**

**Inpoliger Netzschalter. In Notfälle oder für Wartungsarbeiten Netzkabel trennen. Der Netzstecker fungiert auch als Trennelement muss deshalb zugänglich bleiben**

# 6  INSTRUCCIONES IMPORTANTES DE SEGURIDAD

- **LEA estas instrucciones**
- **CONSERVE estas instrucciones**
- **PRESTE ATENCION a todas las advertencias.**
- **SIGA todas las instrucciones**
- **NO utilice este aparato cerca del agua**
- **NO obstruya ninguna de las aberturas de ventilación.** Instálese según lo indicado en las instrucciones del fabricante
- **No instale el aparato cerca de fuentes de calor** tales como radiadores, registros de calefacción, estufas u otros aparatos (incluyendo amplificadores) que produzcan calor
- **NO anule la función de seguridad del enchufe polarizado** o con clavija de puesta a tierra. Un enchufe polarizado tiene dos patas, una más ancha que la otra. Un enchufe con puesta a tierra tiene dos patas y una tercera clavija con puesta a tierra. La pata más ancha o la tercera clavija se proporciona para su seguridad. Si el toma corriente no es del tipo apropiado para el enchufe, consulte a un electricista para que sustituya el toma corriente de estilo anticuado
- **PROTEJA el cable eléctrico** para evitar que personas lo pisen o estrujen, particularmente en sus enchufes, en los toma corrientes y en el punto en el cual sale del aparato
- **UTILICE únicamente los accesorios especificados por el fabricante**
- **UTILICESE únicamente** con un carro, pedestal, escuadra o mesa del tipo especificado por el fabricante o vendido con el aparato. Si se usa un carro, el mismo debe moverse con sumo cuidado para evitar que se vuelque con el aparato
- **DESENCHUFE el aparato** durante las tormentas eléctricas, o si no va a ser utilizado por un lapso prolongado.
- **TODA reparación** debe ser llevada a cabo por técnicos calificados. El aparato requiere reparación si ha sufrido cualquier tipo de daño, incluyendo los daños al cordón o enchufe eléctrico, si se derrama líquido sobre el aparato o si caen objetos en su interior, si ha sido expuesto a la lluvia o la humedad, si no funciona de modo normal, o si se ha caído.
- **NO exponga** este aparato a chorros o salpicaduras de líquidos. NO coloque objetos llenos con líquido, tales como floreros, sobre el aparato .

*Este símbolo indica que la unidad contiene niveles de voltaje peligrosos que representan un riesgo de choques eléctricos.*

*Este símbolo indica que la literatura que acompaña a esta unidad contiene instrucciones importantes de funcionamiento y mantenimiento.*

**Antes de cambiar la alimentacion de voltaje o de cambiar el fusible, desconecte el cable de alimentacion. Para reducir el riesgo de descargas electricas, esta unidad debe ser conectada a tierra.**

**Remplaze el fusible con lo mismo, que corresponde a lo indicado en el panel del equipo.**

**Antes de encender, controlar que la linea de alimentacion de voltaje corresponda a la indicada**

**El interruptor de alimentación es unipolar. En el caso de peligro, desconecte el cable de alimentación. Porque la clavija de conexion a red sirve por la desconection de la unidad, la clavija debe ser ubicada en proximidad de la unidad**

# 7  UNPACKING AND INSPECTION

Your equipment was packed carefully at the factory in a container designed to protect the unit during shipment. Nevertheless, we recommend making a careful inspection of the shipping carton and the contents for any signs of physical damage.

**Damage & Claims**

If damage is evident, do not discard the container or packing material. Contact your carrier immediately to file a claim for damages. Customarily, the carrier requires you, the consignee, to make all damage claims. It will be helpful to retain the shipping documents and the waybill number.

**Save all packing materials! If You should ever have to ship the unti (e.g. for servicing), it is best to ship it in the original carton with its packing materials because both the carton and packing material have been carefully designed to protect the unit.**

Under normal conditions no user maintenance or calibration are required. Internal links and preset controls may be set to configure the unit during installation. **Any service work required should be carried out by qualified service personnel only.**
We are able to offer further product support through our worldwide network of approved dealers and service agents.

**To help us provide the most efficient service please would you keep a record of the unit serial number, and date and place of purchase to be quoted in any communication regarding this product.**

The actual equipment Serial Number is indicated on the <u>silver label</u> stuck on the rear panel of the equipment closure.



**Tools And Equipment Needed**

Only standard technician's tools are required to install this equipment.

# 8   FIRST INSTALLATION RECOMMENDATIONS

## 8.1   POWER SUPPLY CABLE

A power supply cable of approx. 2 mt length is supplied with the device, which has a moulded IEC plug attached – this is a legal requirement.
The type of plug for the power supply depends on the country in which it is delivered.

If for any reason, you need to use this appliance with a different plug, you should use the following wiring guidelines in replacing the exsisting plug with the new one:

| | |
|---|---|
| Earth | Green, or green and yellow |
| Neutral (N) | Blue |
| Live (L) | Brown |

Supply cables should be laid in such a manner that one does not step or walk on them. They should not be squashed by any objects.

**THIS EQUIPMENT MUST BE EARTHED**.

The chassis is always connected to mains earth to ensure your safety: check your mains wiring and earthing before switching on.

## 8.2   AC MAINS VOLTAGE SETTING (230 V / 115 V)

> ⚠ *BE SURE THAT THE UNIT IS SET TO THE CORRECT MAINS/LINE VOLTAGE FOR YOUR COUNTRY BEFORE PLUGGING IT INTO THE WALL OUTLET !*

The actual Mains voltage is indicated on the <u>label</u> stuck on the equipment closure. Should the type of power at the operation location not be known, please contact your dealer or electricity company.



If, for some reason, the unit is to be operated at a mains input voltage which is different to that as supplied, you need to switch the voltage selector on the right side of the unit. You also need to replace the AC main fuse, according to information provided on the external label or on the Technical Specifications table at the end of this user manual.

> ⚡ **CAUTION:** TO REDUCE THE RISK OF ELECTRICAL SHOCK, ALWAYS DISCONNECT THE AC MAINS CABLE BEFORE ALTERING THE CHANGE-OVER SWITCH. NO USER SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

## 8.3  FUSE REPLACEMENT

The power supply socket has an integral fuse drawer containing the AC power fuse and a spare, both of the same value.

⚠ BEFORE REPLACING THE POWER FUSE, MAKE SURE YOU HAVE THE RIGHT TYPE OF FUSE FOR THE VOLTAGE TO BE PROTECTED.
USING WRONG FUSE TYPE WILL RESULT IN INSUFFICIENT PROTECTION.

**Make sure that the power is switched off and the power cable is disconnected from the equipment.**

     **a.**   **Open the fuse drawer using a small blade screwdriver.**



     **b.**   **Replace the fuse located at the internal position**



     **c.**   **Push the fuse socket back into the original position (a.)**

⚠ Perform the set-up under static control conditions. Static charges are likely to completely destroy one or more of the CMOS semiconductors employed in the unit. Static damage will not be covered under warranty.
Basic damage prevention consists of minimizing generation, discharging any accumulated static charge on your body and preventing that discharge from being sent to or through any electronic component.

⚡ Uninsulated dangerous voltage are inside the enclosure, voltage that may be sufficient to constitute a risk of shock.
**Always disconnect to AC Mains before removing the top cover**

## 8.4 PROTECTION AGAINST LIGHTNING

> Should the device be put out of action due to being struck by lightning or excess voltage, disconnect it from the power supply without delay. Do not reconnect until the device has been checked. If in doubt contact the technical support service.
>
> Make sure there is suitable lightning protection to protect the device.
> Alternatively you should disconnect all connectors from the device during a storm or when the device is going to be unsupervised or not used for a longer period of time.
> These measures will protect against damage by lightning or excess voltage.

## 8.5 VENTILATION

The equipment will operate as a free-standing unit without requiring any special cooling arrangement.
However, slots and openings in the product are provided for ventilation. They ensure reliable operation of the product, keeping it from overheating. These openings must not be blocked nor covered during operation.
**YOU MUST LEAVE AT A MINIMUM ONE RACK UNIT OF EMPTY SPACE ABOVE THE EQUIPMENT TO ENHANCE VENTILATION AND TO GET A LONGER EQUIPMENT LIFE.**

# 9   INTRODUCTION

## 9.1.1   VERSIONS AVAILABLE

| CODE | MODEL | DESCRIPTION |
|---|---|---|
| A110050008 | WOLF | Automatic digital measuring and monitoring system for FM networks, on analog audio, AES/EBU and MPX/RDS. Automatic changeover between inputs, RDS filter, alarm management, SNMP, Web server. 2 RU. Combinable with WOLF-REF for comparative measurements and automatic tests on the network. RS232/Ethernet port for remote control via PC. |
| A110050005 | WOLF REF | Automatic reference signal generation and measurement system for the WOLF system. Management of analog audio and AES/EBU outputs GPI control port alarm management, SNMP, Web server. 1 RU. Combinable with WOLF networks for comparative measurements and automatic tests on the network. RS232/Ethernet port for remote control via PC. |

## 9.1.2   OPTIONS AVAILABLE

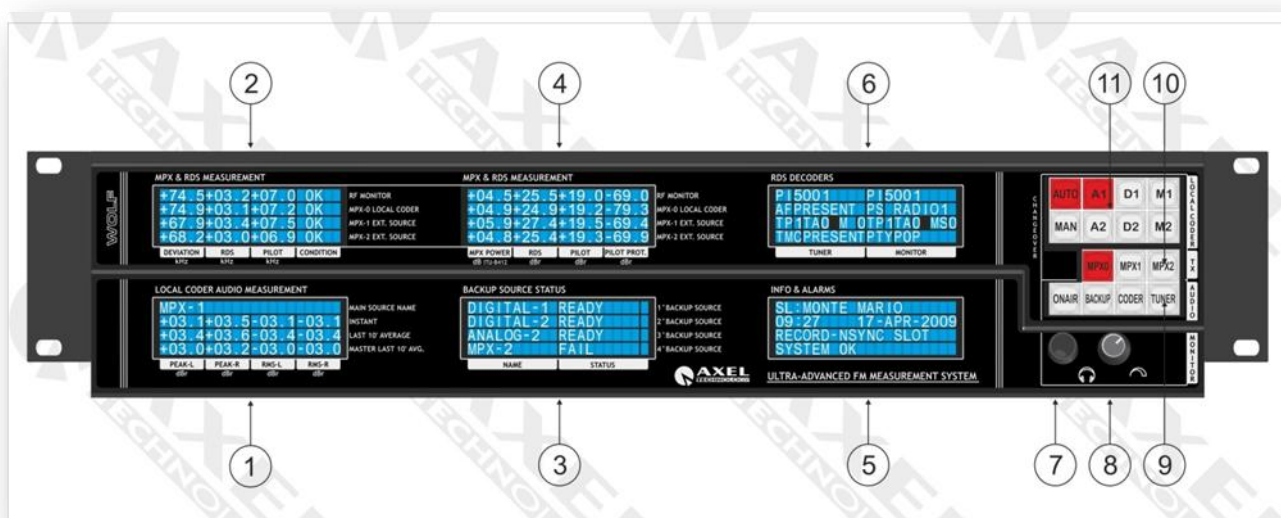| CODE | OPTION | DESCRIPTION |
|---|---|---|
| A110050316 | WLF-ADPTA | Wolf Analog Adapter on 8 XLR (2 stereo IN, 2 stereo OUT). |
| A110050317 | WLF-ADPTD | Wolf Ditigal Adapter on 4 XLR (2 AES/EBU IN, 2 AES/EBU OUT). |
| A110050320 | WLF-BBAM | Analog Audio and MPX signal breakout box, HW bypass functions for all outputs, 19" 1u rack.  Includes 1m Wolf/BB connection cables. |
| A110050324 | WLF-BBD | AES/EBU Audio breakout box, HW bypass functions for the two outputs, AES/EBU distributor, 6 out., 19" 1u rack.  Includes 1m Wolf/BB connection cables. |

# 10 WOLF FUNCTIONAL AND CONNECTION DIAGRAM

## 10.1 WOLF MEASUREMENTS / CHANGEOVER DIAGRAM

## 10.2  WOLF FRONT PANEL



| N° | IMAGINE | DESCRIPTION |
|---|---|---|
| 1 | LOCAL CODER AUDIO MEASUREMENT<br>MPX-1 — MAIN SOURCE NAME<br>+03.1 +03.5 -03.1 -03.1 — INSTANT<br>+03.4 +03.6 -03.4 -03.4 — LAST 10' AVERAGE<br>+03.0 +03.2 -03.0 -03.0 — MASTER LAST 10' AVG.<br>PEAK-L / PEAK-R / RMS-L / RMS-R<br>dBr dBr dBr dBr | Display for:<br>"LOCAL CODER AUDIO MEASUREMENT" |
| 2 | MPX & RDS MEASUREMENT<br>+74.5 +03.2 +07.0 OK — RF MONITOR<br>+74.9 +03.1 +07.2 OK — MPX-0 LOCAL CODER<br>+67.9 +03.4 +07.5 OK — MPX-1 EXT. SOURCE<br>+68.2 +03.0 +06.9 OK — MPX-2 EXT. SOURCE<br>DEVIATION / RDS / PILOT / CONDITION<br>kHz kHz kHz | Display for:<br>"MPX & RDS MEASUREMENT" |
| 3 | BACKUP SOURCE STATUS<br>DIGITAL-1 READY — 1° BACKUP SOURCE<br>DIGITAL-2 READY — 2° BACKUP SOURCE<br>ANALOG-2 READY — 3° BACKUP SOURCE<br>MPX-2 FAIL — 4° BACKUP SOURCE<br>NAME / STATUS | Display for:<br>"BACKUP SOURCE STATUS" |
| 4 | MPX & RDS MEASUREMENT<br>+04.5 +25.5 +19.0 -69.0 — RF MONITOR<br>+04.9 +24.9 +19.2 -79.3 — MPX-0 LOCAL CODER<br>+05.9 +27.4 +19.5 -69.4 — MPX-1 EXT. SOURCE<br>+04.8 +25.4 +19.3 -69.9 — MPX-2 EXT. SOURCE<br>MPX POWER / RDS / PILOT / PILOT PROT.<br>dB ITU-8412  dBr  dBr  dBr | Display for:<br>"MPX & RDS MEASUREMENT" |

| | | |
|---|---|---|
| **5** | INFO & ALARMS<br>SL:MONTE MARIO<br>09:27    17-APR-2009<br>RECORD-NSYNC SLOT<br>SYSTEM OK | Display for:<br>"INFO & ALARMS" |
| **6** | RDS DECODERS<br>PI5001      PI5001<br>AFPRESENT PS RADIO1<br>TP1TA0 M 0TP1TA0 MS0<br>TMCPRESENTPTYPOP<br><br>TUNER          MONITOR | Display for:<br>"RDS DECODERS" |
| **7**<br><br>**8** | MONITOR | Monitor module with<br>7. Headphone socket for monitor - 6.3 mm jack<br><br>8. Output volume dial |
| **9**<br><br>**10** | MPX0 MPX1 MPX2 TX<br>ONAIR BACKUP CODER TUNER AUDIO | Module for:<br>9. Listening audio selection<br><br>10. Transmitter selection |
| **11** | AUTO A1 D1 M1<br>MAN A2 D2 M2 LOCAL CODER | Selection:<br>LOCAL CODER + CHANGEOVER |
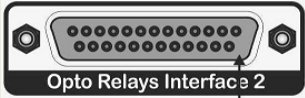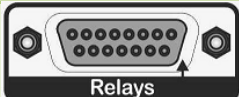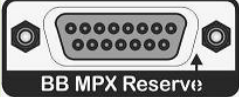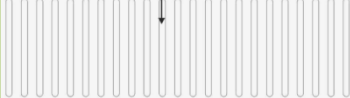
## 10.3  WOLF REAR PANEL
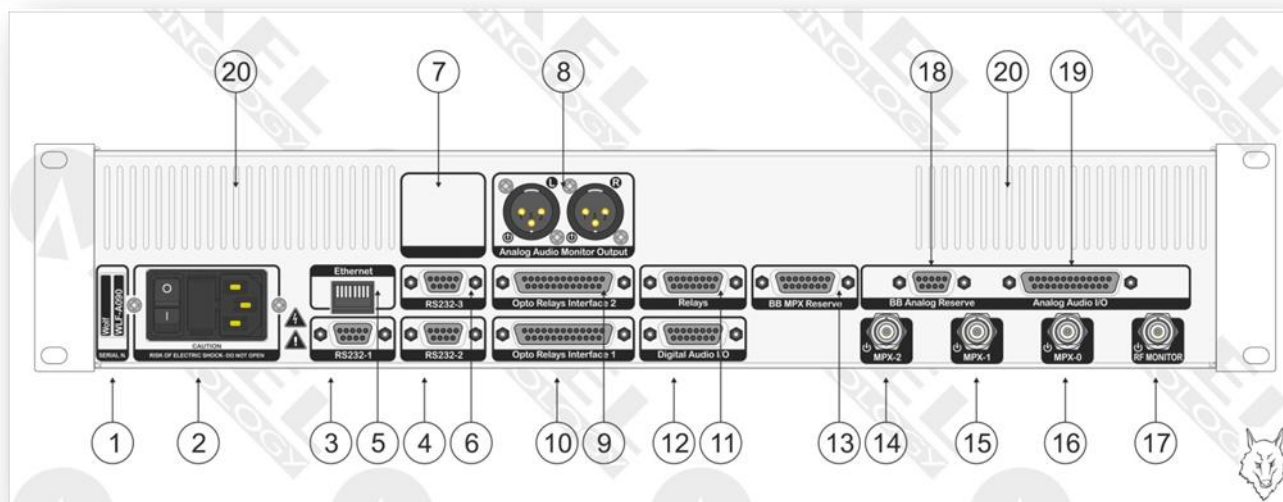


| N° | FIGURE | DESCRIPTION |
|---|---|---|
| 1 | | Label with device model and serial number |
| 2 | | Power supply + fuse unit |
| 3 | | RS232-1<br>RS-232 serial port n. 1. For Wolf device control and monitoring and firmware upgrades |
| 4 | | RS232-2<br>RS-232 serial port n.2. For Wolf device control and monitoring |
| 5 | | Ethernet<br>Ethernet port for connection to RJ-45 |
| 6 | | RS232-3<br>RS-232 serial port n. 3. |
| 7 | | Vacancy for future implementations |

| | | |
|---|---|---|
| 8 | | Analog Audio Monitor Output<br>Analog audio output for the monitor. This output is available when you select the monitor from the front panel, via the balanced line male XLR connector. |
| 9 | | Opto Relays Interface 2<br>Isolated opto relay interface for aux. services 2 (see technical appendix for specifications) |
| 10 | | Opto Relays Interface 1<br>Isolated opto relay interface for aux. services 1 (see technical appendix for specifications) |
| 11 | | Relays<br>Relay interface (see appendix) |
| 12 | | Digital audio I/O<br>AES/EBU Digital Audio Input and Output |
| 13 | | BB MPX Reserve<br>Connection socket for MPX Breakout Box |
| 14 | | MPX-2<br>Secondary MPX input (**Backup**) |
| 15 | | MPX-1<br>Primary MPX input (**Main**) |
| 16 | | MPX-0<br>MPX input from Local Coder (**MPX0**) |
| 17 | | RF MONITOR<br>MONITOR RF input from Transmitter Test RF |
| 18 | | BB Analog Reserve<br>Breakout box for analog Backup inputs |
| 19 | | Analog audio I/O<br>Socket for Analog Inputs and Outputs |
| 20 | | Air intake slits Fans inside the WOLF ensure forced air circulation |

# 11 WOLF CONNECTIONS (BREAKOUT BOXES)

To facilitate connections to and from Wolf, there are two different optional connection boxes available that simplify connections. Thanks to these expansion panels, the connections can be brought to the front or rear of the rack, depending on the technical requirements of the installation in question.

The Wolf handles analog and digital signals. More specifically, there are two different Breakout Boxes available, a digital-only version (WLF-BBD) and a hybrid version, featuring inputs and outputs for analogue and mpx signals (WLF-BBAM)

In the figure below, showing the Wolf Digital Breakout Box (WLF-BBD, there are two separate inputs (IN C and IN D) and the relative outputs (OUT C and OUT D), in addition to the further outputs (**OUT 1, OUT 2, OUT 3, OUT 4)**. These outputs can be fully configured as required; the default jumper settings inside the Breakout Box are such that these always reproduce **OUTPUT C**. All inputs and outputs are transformer de-coupled, with a characteristic impedance of 110 ohms.
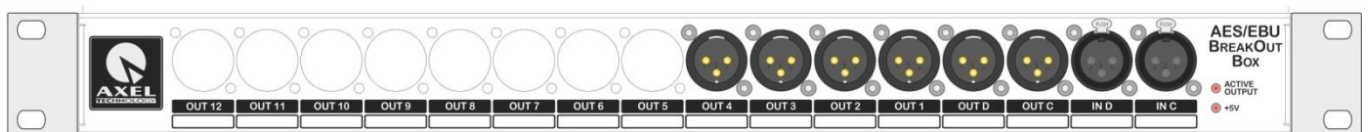


In addition to the individual in/out connections, the BB also allows the device to have active independent service outputs assignable to inputs/outputs. This is to facilitate installation. For the Breakout Box connection details and operating parameters, please refer to the Technical Appendix at the end of the manual.

The figure below shows the Wolf Analog and MPX Breakout Box (WLF-BBAM).
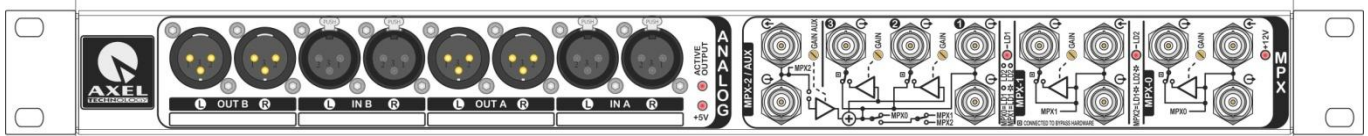
## 12  WHAT IS THE WOLF NETWORK AND WHAT IS IT FOR?

The WOLF is a powerful, multi-functional FM station monitor . The device is designed to monitor audio signals, including analog signals, digital signals, and MPX signals (with or without RDS), as well as free air signals, in the FM bandwidth (87.5 - 108.0 MHz). The results of the measurements, whether performed on audio signals, MPX signals or on free air signals, are directly accessible as HTML pages, using the built-in Web Server, or the dedicated PC monitoring software. The results of the measurements carried out can also be compared with a grid of preset values, with the generation of appropriate alarms in the event of out-of-range values. The Wolf supports the following protocols: UECP , SNMP, HTTP and TFTP.

## 13  THE MAIN CONCEPT OF THE WOLF NETWORK DEVICE

The ways in which to connect the Wolf are many and varied. They differ depending on the needs of the broadcasters using the device on their network. The versatility and, above all, the number of functions, operations, and facilities of this equipment mean it can be put to a wide range of uses. One of the fundamental concepts of the Wolf, one of its most conventional intended uses and - above all - one of the functions for which the device was conceived, is the ability to manage its powerful internal changeover function, according to the precise meter featured. The Wolf's internal changeover function allows the device to broadcast the 'best' audio source, according to the reference parameters configured internally.

## 14  AUTOMATIC MODE

In automatic mode, the Wolf automatically runs a series of pre-set measurements on audio signals and MPX, RDS and antenna signals, and records the results in its log file. The machine can also compare the measurements against reference values or ranges (called Thresholds) preset by the operator, or other reference data. This mode is generally the standard operating mode. In this mode you cannot change any system configuration parameter. When the Wolf is set to **'Auto'** or is carrying out on-line measurements, other measurements are carried out at the same time, including: Pilot Level, RDS level, peak deviation and power (as required by standard ITU-R BS412) on the two signals marked MPX-1 and MPX-2. Depending on the how the device is configured, these will correspond to either the external Base Bandwidth MPX-1 and MPX-2 inputs, the built-in tuner output, or the output of any external tuner that may be in use.

One RDS decoder stage, meanwhile, can be applied either to one of the two signals MPX-1 or MPX-2 or directly to the signal outputted by the built-in tuner or the external tuner.

In addition, the Wolf decoder features a built-in digital stereo decoder which can also be applied to the internal MPX-1 or MPX-2 signal. The output of the stereo decoder is measured using an RMS meter. The Wolf also measures stereo audio input signals, both analogue and digital. The measurements concern the instantaneous peak level or the average peak levels over a given period and also the instantaneous RMS level or the average level over a given period.

## 15  MANUAL MODE

When in manual mode, the parameters can be altered, but the <u>device's automatic measuring and monitoring operations will be suspended.</u> In manual mode, a measurement can effectively be selected and the results viewed using the device as a normal workbench tool.



The Wolf acts as a peak meter and an RMS meter (both stereo), which can be applied to either analog or digital audio signals, as well as external MPX-1 and MPX-2 signals, whether at the output of the tuners or of the MPX stereo decoder, which can, in turn, be applied to various signals. When the signal measured is a mono signal (as in the case of an MPX), a 'Mono to Stereo' conversion module is automatically added to the chain, to standardise it with the measurement of stereo audio signals. Note that the type of measurement to be carried out, i.e. the pilot level, the pilot distortion, the RDS level, etc. is set via the particular filter selected manually from those available in the filter selection menu page. All measurements are always expressed as dBr (dB relative) and refer to the reference level selected for each input via the Reference menu (see the Reference stages applied to each input, which actually represent the Fixed gain value applied to that particular input). The Web Server screen page shows the Manual control settings.

## 16  LOCAL/REMOTE MODE

When it is in local mode, the Wolf does not accept operating commands from remote devices. All UECP / SNMP / HTTP activation commands are therefore masked graphically via the software. TFTP commands are always accepted, as they are considered globally configured macro-operations. In this mode it is assumed that the local operator has total control of the device. In remote mode (normal operating condition), all commands are accepted, with all the complications for an operator inherent to shared parameters in the event of local navigation.

# 17  HOW TO CONNECT THE WOLF
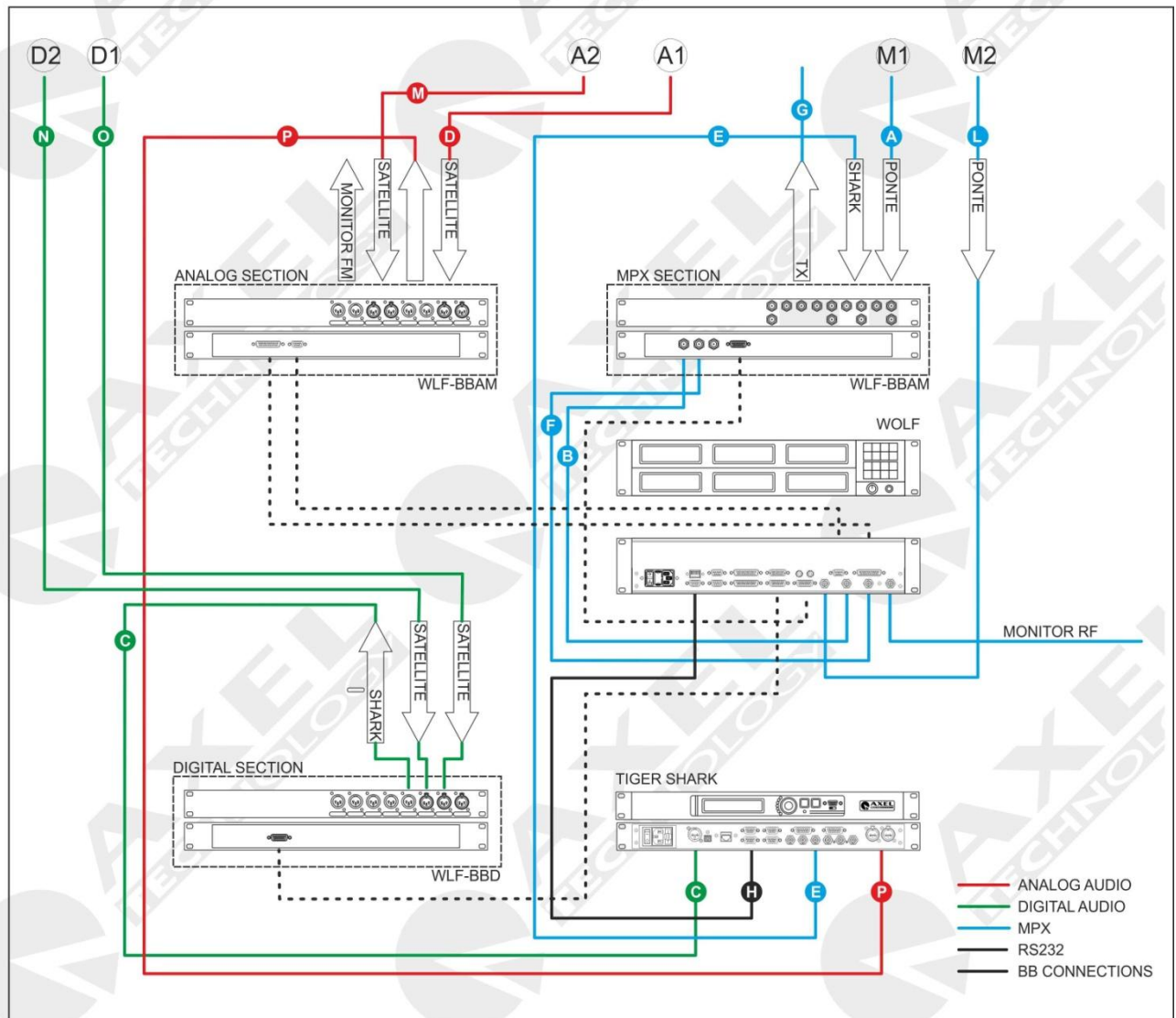


Listed below are the maximum number of inputs and outputs available on the Wolf:

- Balanced Stereo Analog Audio Input 1 (Analog- 1)

- Balanced Stereo Analog Audio Input 2 (Analog- 2)

- AES3/EBU Digital Audio Input 1 (Digital- 1)

- AES3/EBU Digital Audio Input 2 (Digital- 2)

- Multiplex Input 1 (MPX- 1)

- Multiplex Input 2 (MPX- 2)

- Local Coder Multiplex Input 0 (MPX- 0)

-  MONITOR RF input

# 18 CONTROL, MANAGEMENT, AND MONITORING SOFTWARE

This section explains how to install and configure the coordinating control, management, and monitoring software assigned to the Wolf device. The products and applications currently available for both the Wolf Master and the Wolf are listed below. For installation of the applications and compatibility with various operating systems (O.S.) and configurations, please see the Appendices at the end of this manual:

- *Axel Wolf Target Address Manager*
- *Axel Wolf Network Remoter*
- *Axel Wolf Manager*.

## 18.1 OVERVIEW OF AXEL WOLF ADDRESS MANAGER

The coordinating Axel Wolf Address Manager application is assigned to the Wolf device and, after its installation, it is used to set the Wolf device start parameters. An RS-232 (COM) port is used for first and subsequent connections. The parameters that can be set using this application are outlined below:

- The communication port between the Workstation and the Wolf Network device
- The UECP operating mode, which can vary between **UECP (Standard)** or **UECP Extended**
- The **Site List** and the **Encoder List** in the event of use in **UECP Standard** or the **ID List** and the **Group List** in the event of **UECP Extended**
- The Local IP Address, the Local Subnet Mask, the Local Gateway and the Local Port for the Local Connection via **TCP/IP**
- The Remote IP Address, the Remote Subnet Mask, the Remote Gateway, and the Remote Port for the Remote Connection via **TCP/IP**
- The "**NTP IP**" address to configure the Network Time Protocol and its Port (**NTP Port**)
- Extended Port configuration

## 18.2 OVERVIEW OF AXEL WOLF NETWORK REMOTER

After setting the various connection parameters (IP address, phone numbers, or serial ports) using Wolf Address Manager, you can access the Wolf device via Wolf Remoter Network.

You can then connect to the device in a number of ways, such as:
- Serial line (RS232)
- GSM or PSTN modem and
- TCP/IP. Once connected, this application enables you to ….
- TFTP

Once inside the Wolf Network, you can perform any of the various operations outlined roughly below:
- Check the status of the Wolf Network, to see at a glance whether or not there are any errors.
- Set the time and date (both local and UTC) of the Wolf Network device (Clock and Editor)
- Access Wolf Editor (Wolf Editor)
- Read the measurements carried out automatically by the Wolf Network (Automatic Measures)
- Read the log of the measurements performed by the Wolf Network (Measure DB)
- Read the off-line measurements carried out by the Wolf Network (Offline Data)

Some examples can be seen in the figures below

## 18.3 OVERVIEW OF AXEL WOLF MANAGER

Wolf Manager is designed and structured to provide a global view of the Wolf Network device as graphically as possible. This application can be considered a "lighter" version of Axel Ranger, which is a much more intricate device monitoring and management program. For more information on the Axel Ranger application, visit the website www.axeltechnology.com or ring Axel Technology, using the phone numbers on the front page.

Wolf Manager is an application that is installed on platforms like Windows and allows the user to read and manage the measurements performed by the Wolf Network. Again, for installation methods and compatibility, please see the appendix at the end of the manual. Wolf Manager provides a graphic display of all the Wolf Network device's alarms, statuses, readings and log files:

- *Device Info*
- *Changeover Status*
- *Audio OnAir*
- *Alarms*
- *Measures*
- *Changeover*
- *Monitor*
- *Primary Audio*
- *MPX-1*
- *MPX-2*
- *MPX-0*
- *FM Tuner*
- *Monitor RDS*
- *General Data*
- *Log Files*
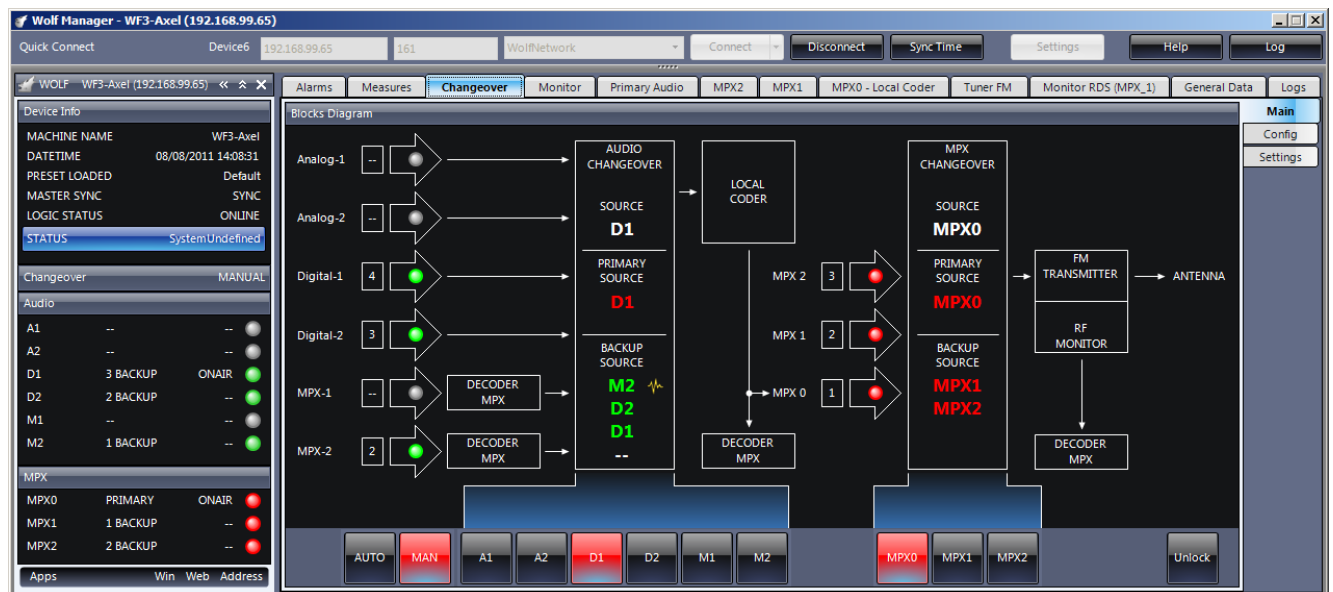


The following pages of this manual contain more detailed explanations of how the three applications can be configured.

## 18.4 USING AXEL WOLF ADDRESS MANAGER FOR THE FIRST TIME

As explained in the previous section, Wolf Address Manager "guides" the machine through UECP and/or IP and SNMP and NTP encoding identifiers. First of all, you have to install the applications supplied with the Wolf device on your PC. They are contained on a CD-ROM and the installation procedure is outlined below:

1. Insert the CD-ROM into your PC.

2. Run the auto-install file "Setup.exe"

3. Connect the Wolf Network device to the power supply and switch it on. This is the screen that appears when you run setup.exe. The file may also be obtained directly from Axel Technology s.r.l. or another retailer, in which case it may be provided in a . rar or other compressed format. In this case, you should decompress the file and save it on your PC's system disk before carrying out the installation.
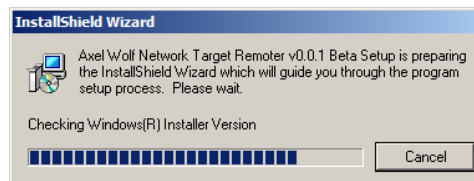
4. Once you have launched Setup.exe and obtained the necessary information from the operating system, the following screen will appear. Press the NEXT button to proceed with the installation of the executable contents for the Wolf Network.

5. When the NEXT button is pressed, the Customer Information window appears, where you will have to set the "Username" and "Organization" and whether or not the application needs to be installed for and used by a single user or "all users"
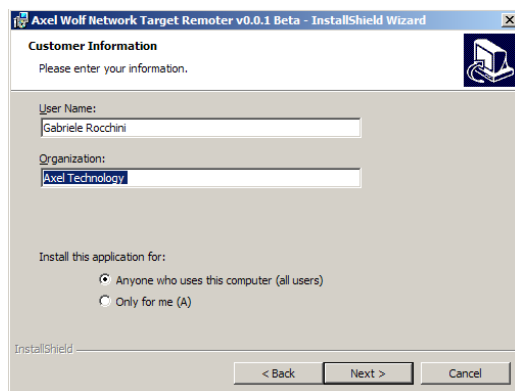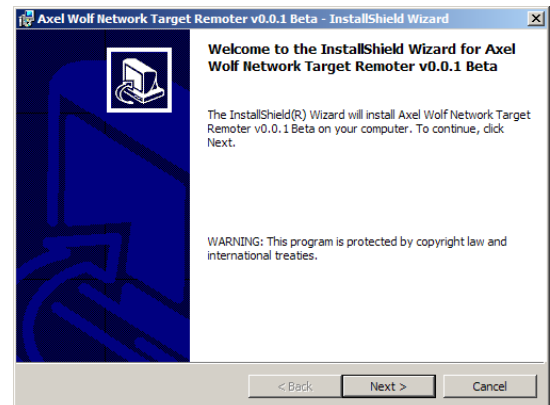
6. Clicking NEXT takes you on to the following step, which is the selection of the application installation path. Generally speaking, you should adopt the standard pathway proposed by the operating system. However, the target location can be altered by clicking Change in the right-hand central section of the page.

7. When the Next button is pressed again, a quick summary of the installation settings is displayed or a "Ready to Install
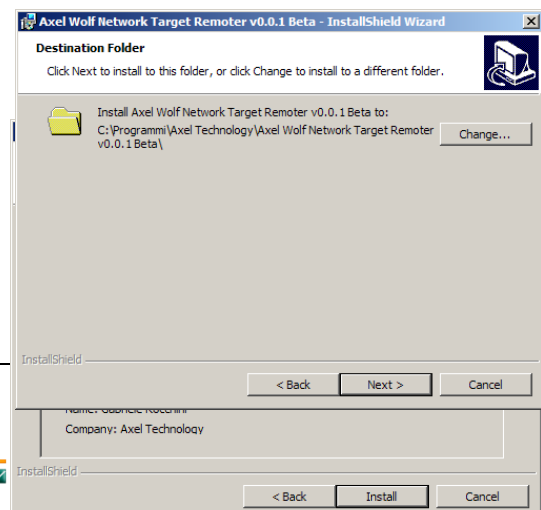
the Program" message, while clicking again takes you to the actual phase in which installation of the applications within the operating system takes place.

A blue bar shows installation progress.
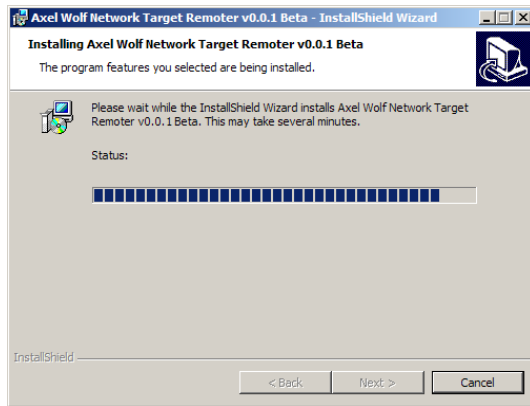
8.  After installation - and once the various installation processes have been checked - the program will display the following message: "InstallShield Wizard Complete"

9.  At this point, two new icons will have appeared on your computer's desktop :

    *- Axel Wolf Address Manager vX.X.X*
    *- Axel Wolf Network Remoter vx.x.x*

    You can now connect the Wolf Network to your PC and use the services offered by the various applications to start using the Wolf Network device.
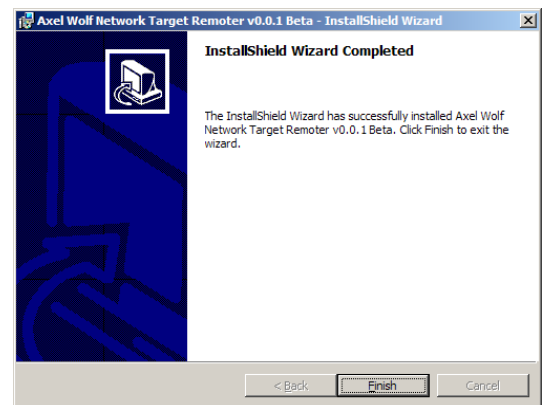
## 18.5 CONFIGURING THE WOLF

1. Connect the 9-pole Male/Female Pin-to-Pin cable (for connection to the Wolf device) to the COM(*x*) port of your computer.  This cable comes supplied with the Wolf Network device and can be found inside the box.

2. Connect the aforesaid cable to the Wolf device via the **RS232**-1 port, or the Wolf COM number 1 port, which is also the only one enabled for operation of Wolf Address Manager.

3. Launch the previously installed Wolf Address Manager program using the icon on your PC's desktop or another link.

4. Press the Connect to Target button in the top central section of the screen.
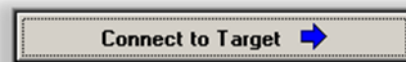


5. Once the Connect to Target button has been pressed, the data stored inside the device will appear.  More specifically, the figure below shows a Wolf Network device with some of the data programmed. To edit the



default manufacturer's settings configured by Axel Technology, simply position the cursor on the field and change the data.  Once you have changed the settings to the desired values, enter the data in the Wolf Network device by clicking the Send Data button in the bottom right-hand corner of the software panel.
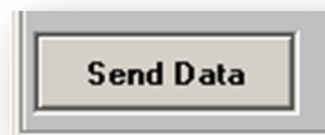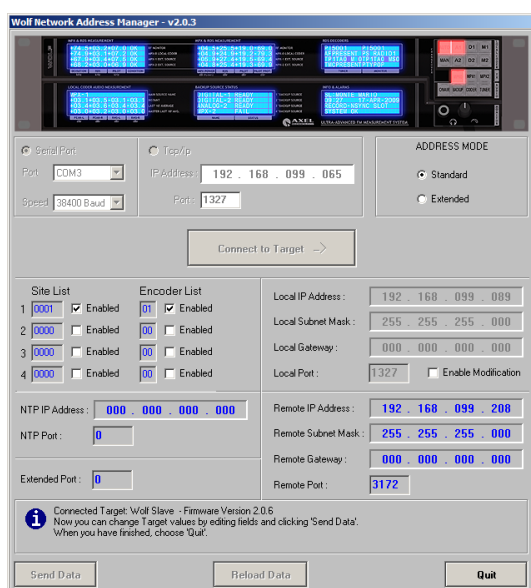


6. Once the data has been sent successfully to the device, the Send Data button will go back to its original grey colour. To read the settings stored in the device, press the "Reload Data" button in the central section of the screen.  This operation is used to recall the settings stored in the Wolf Network.



7. Once these settings have been configured you can use the Axel Wolf Network Remoter application for device management.  See the next section.
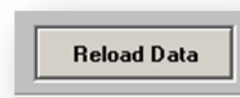
*N.B: With regards to speed on the RS232-1 port, the factory default setting is 38,400 bps, and Wolf Address Manager has this at its default setting after installation on your computer. This setting can also be edited, but since this is the preferred port for communication and the Wolf Network device configuration, we strongly advise you NOT to alter this port value. For port speed editing, see the appendix at the end of the manual.*

# 19 USING WOLF REMOTER FOR THE FIRST TIME

As explained in the previous section, the Wolf Network Remoter application is the software that allows access to the device and editing of the operating parameters. The following connection procedures are currently available:

1. **LOCAL RS 232**
2. **MODEM**
3. **TCP/IP**
4. **TFTP (under development)**

1. First of all, start up Wolf Network Remoter by launching the executable file from the location in which you installed it (e.g. Desktop)

2. The following window will appear:
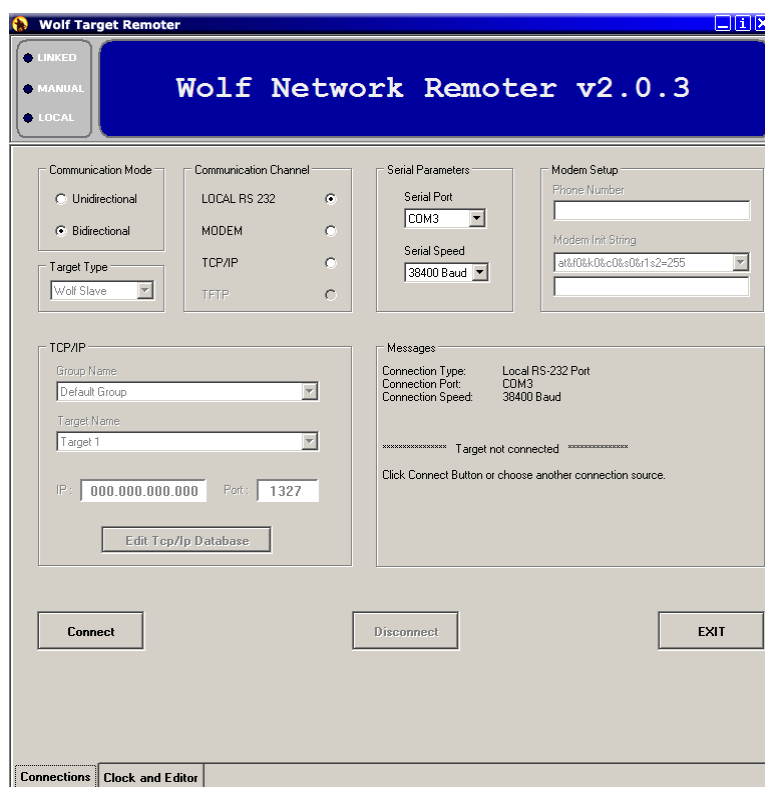


3. **LOCAL RS 232** mode



At the moment, the RS 232 LOCAL mode is the simplest, as it involves the use of a single pin-to-pin serial cable connected to a single control PC. To do this, select Local RS232 in the Communication Channel panel, as seen in the figure.

After you do this, select the Serial Port you intend to use in your PC and its port speed. These two parameters can be found in the Serial Parameters panel, beside the Communication Channel. Once you have set the correct values to access the Wolf Network, press the Connect button.
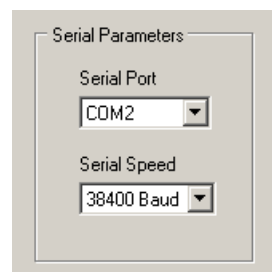
If the connection is successful, the Messages panel will show the message "Connection to target successfully established" and will also feature some of the data of the Wolf Network device to which you are connected, such as the target type, the firmware version, and the firmware code. This means you are properly connected with the Wolf Network.
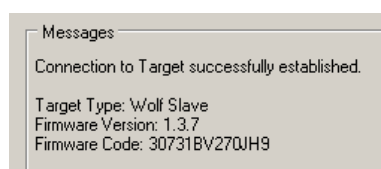
## 19.1 DIRECT LINK VIA MODEM UPLINK
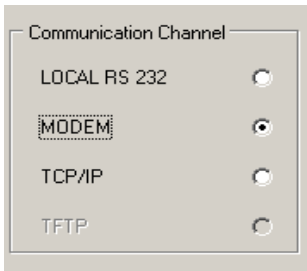
It is possible to connect a PC and a remotely installed Wolf Network via a dial-up modem connection. Each time the connection is made via two dial-up modems, select **'MODEM'** in the communication channel configuration windows (ComChannel). The connection mode ('Connection mode') will be automatically set to 'bidirectional':
See the next section of this manual for the physical connection between the modem and the Wolf Network, at the remote end (serial port 1 of the Wolf Network must be used for this purpose).
Using Wolf Remoter Network, set the serial port used to connect to the modem and the associated connection speed (which is usually 38400 baud for POTS/PSTN modems and 9600 baud for GSM modems). You will also need to enter a modem initialization string

**SERIAL PORT**    Select the PC serial port to use for the connection (from 1 to 255). In the case of a USB modem, check that the 'virtual' serial port is selected automatically by the PC.

**SERIAL SPEED**    Set the maximum transmission speed for the selected PC port. By default, the Remoter will display the maximum value (38400 Baud).

> ⚠️ **The communication transmission speed set in the control PC's software must MATCH the transmission speed of the modem connected.**

| **INITIALIZ. STRING** | Enter the AT initialization string here. The BSN offers two string options. The shortest (at&f&k0&c0&r1s2=255) is usually suitable for internal PCI modems, while the longest (*at&f0&k0&c0&s0&r1s2=255*) is usually suitable for external modems. |

**TEL. NUMBER**    Enter the number to dial here (including country code, area code, etc.).

Click OK to confirm, or ESC to quit without saving.

## 19.2 CONNECTION TO A DIAL-UP MODEM

Whenever remote control via a dial-up modem is required, connect the modem to the serial port 1 on the back of the unit. Remember to check the configuration of port 1. Its speed must be set to:

**- 38400 baud for a POTS dial-up modem**
**- 9600 baud for a GSM modem.**

A 'crossover' **CABLE** (**NULL MODEM**) is required to for the modem connection. The table below shows the wiring diagram for the cable in both cases in which the modem has 9-pin or 25-pin Sub-D female connectors.

Remember also that:

- On a 25-pin plug, connect pins 6 and 8.

- On a 9-pin plug, connect pins 1 and 6.

|     | WOLF end (Male Sub-D9) | Modem end (M Sub-D 9p) | Modem end (M Sub-D 25p) |
|-----|------------------------|------------------------|-------------------------|
| Pin | 2 | 3 | 2 |
| Pin | 3 | 2 | 3 |
| Pin | 4 | 6 and 1 | 6 and 8 |
| Pin | 5 | 5 | 7 |

The receiver modem (the one connected to the Shark serial port) must have at least the following settings (modem commands are between brackets and refer to the most common modem models):

**- IGNORE CDs (the standard command is &C0)**
**- IGNORE RTS (&R1)**
**- IGNORE DTR (&D0)**
**- Disable TX Flow Control (&H0)**
**- Disable RX Flow Control (&I0)**
**- Disable Data Compression (&K0)**

**You will also need to set registers S0 and S2 as follows:**

- **S0=2**

- **S2=255**

*The S0 register is the number of rings before Auto Answer. It is used to set the number of rings required before the modem automatically answers a call. Range: 0-255 rings). Setting this register to zero disables auto answer mode. S0 = n, where n is the number of rings.* **We recommend you set S0 = 2**

*The S2 register (Escape Code Character) specifies the ASCII value of the character used in the escape code (The escape code is the escape character entered three times in a row.) When the modem is in connected status and receives the escape code, the modem enters the command status. Normally, setting the S2 register to 128 or above disables the escape code character.* **We recommend you set S2 = 255**

You will need to **load these settings in the modem memory,** so that they are loaded immediately at modem start-up. Please refer to the modem's user manual for more information.

# 19.3 CONNECTION VIA TCP/IP (NETWORK)

Make sure the Wolf already has a valid TCP/IP subnet mask and an IP port number (see next section for more information). Select 'TCP/IP' in the communication channel configuration windows (*ComChannel*). A screen summarising the current TCP / IP connection data will appear :



To enter the actual Wolf Network IP address and IP port to connect to, click on **[EDIT TCP / IP Database].** The **Configuration Editor** program will open. For Editor use, please see the relative section.

Click on the ⮕🗗 button. The Configuration Editor screen will load the data base of the existing TCP/IP connections and list them.
More in detail, in the [GROUP_START] section, the editor allows you to enter a 'mnemonic' name for the group to which you are connecting, plus a name for the specific unit within the group, its IP address and the port associated with it.

```
;---------------------- Example ------------------------
;
;[GROUP_START]
;
; GROUP_NAME="East-Coast Bridge DPL-01"
;
; WOLF_1="Split 1 - Middle Town", 128.198.076.030 , 2060
; WOLF_2="Split 2 - Route 66", 128.198.035.121 , 3007
; WOLF_3="Split 3 - San Andreas", 128.198.163.002 , 12034
; WOLF_4="Split 4 - Beverly Hills", 128.198.004.100 , 7771
;
;[GROUP_END]
```

**EXAMPLE**
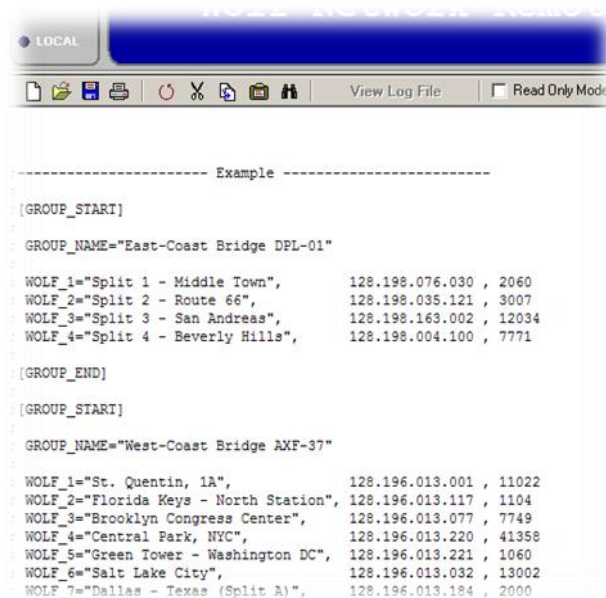


For example, if you're connecting to three units, two from one group and one from another:

- A Wolf with the address **128,198,076,030,** assigned port **2060** and name **Split 1- Middle Town** belonging to the group "**EAST-Coast Bridge DPL-01**"

- A Wolf with the address **128.198.035.121**, assigned port **3007** and name **Split 2 - Route 66** belonging to the group "**EAST-Coast Bridge DPL-01**"

And so on until all the devices you want the Wolf Network to control have been entered.

*You will have to uncheck the* ☐ Read Only Mode *box and edit the lines*

If you only want to control a single Wolf Network device, and this device has been entered into your LAN network, proceed as follows:

    1.Enter the Group_Name as a mnemonic name that refers to the device (in the example: Wolf Network-1)

    2.Enter the name of the device as the name in WOLF_1 (in the example : Wolf Network -1)

    3. Enter the target IP of the Wolf Network previously assigned with Wolf Address Manager and the port.

    4. If not used, you can also delete the other Wolf connection parameters that do not exist in your network.

    5.Once the IP address and relative ports have been entered, save them by clicking and accepting the change of data base.
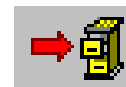
    6.Close the Configuration Editor by clicking on and return to the ComChannel settings .

```
;[GROUP_START]
;
;  GROUP_NAME="Wolf Network-1"
;
;  WOLF_1="Wolf Network-1", 192.168.099.065 , 1327
;
;[GROUP_END]
```

Click OK to confirm, or ESC to quit without saving.

## 20 WOLF NETWORK CONFIGURATION

Once the connection has been established between the PC and the Wolf Network device, various items of connection data will appear on the communications panel on the right. This message box also shows that the connection has been successfully established.

Messages

Connection to Target successfully established.

Target Type: Wolf Slave
Firmware Version: 2.0.6
Firmware Code: A03P1H7D10GTW
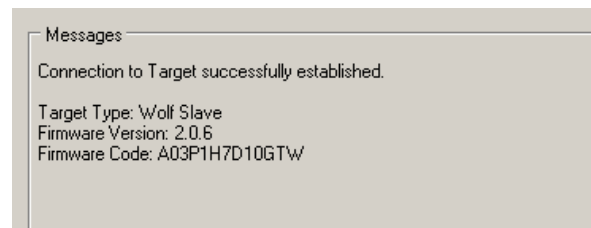
In the lower section of the screen of the Wolf Target Remoter control software, there is also an additional horizontal bar that can be used to perform certain operations (1) (Connections - Clock and Editor - Automatic Measures - Measure DB - Offline Data), while the Disconnect and Exit (2) buttons appear in the middle section. Disconnect is used to disconnect the device from your PC, while Exit is used to quit the program.
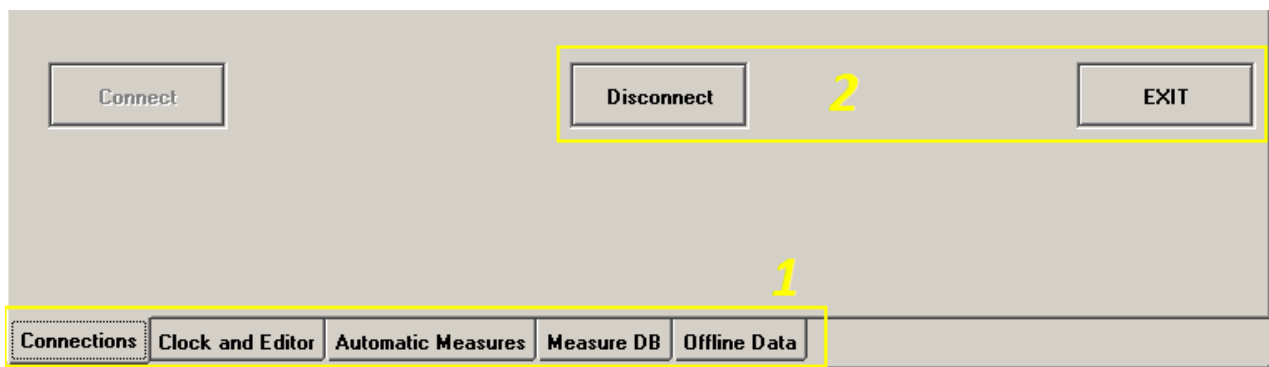
# 21  CLOCK AND EDITOR

By clicking Clock and Editor you can access the most important part of the device, the part where you can set the minimum and maximum setpoints and the Wolf Network trigger thresholds.  The Clock and Editor submenu window that appears is divided into two and features the Wolf Configuration Editor on the left-hand side and the "Wolf Internal Clock Synchronizer" on the right, which shows not only the current time taken from the PC but also the UTC (Universal Time Code) and the Local Time Offset according to the country of use and the offset from GMT. When you press the Synchronize button, the program asks whether you want to the enter the time taken by the Wolf Network from the PC where you are configuring the device.
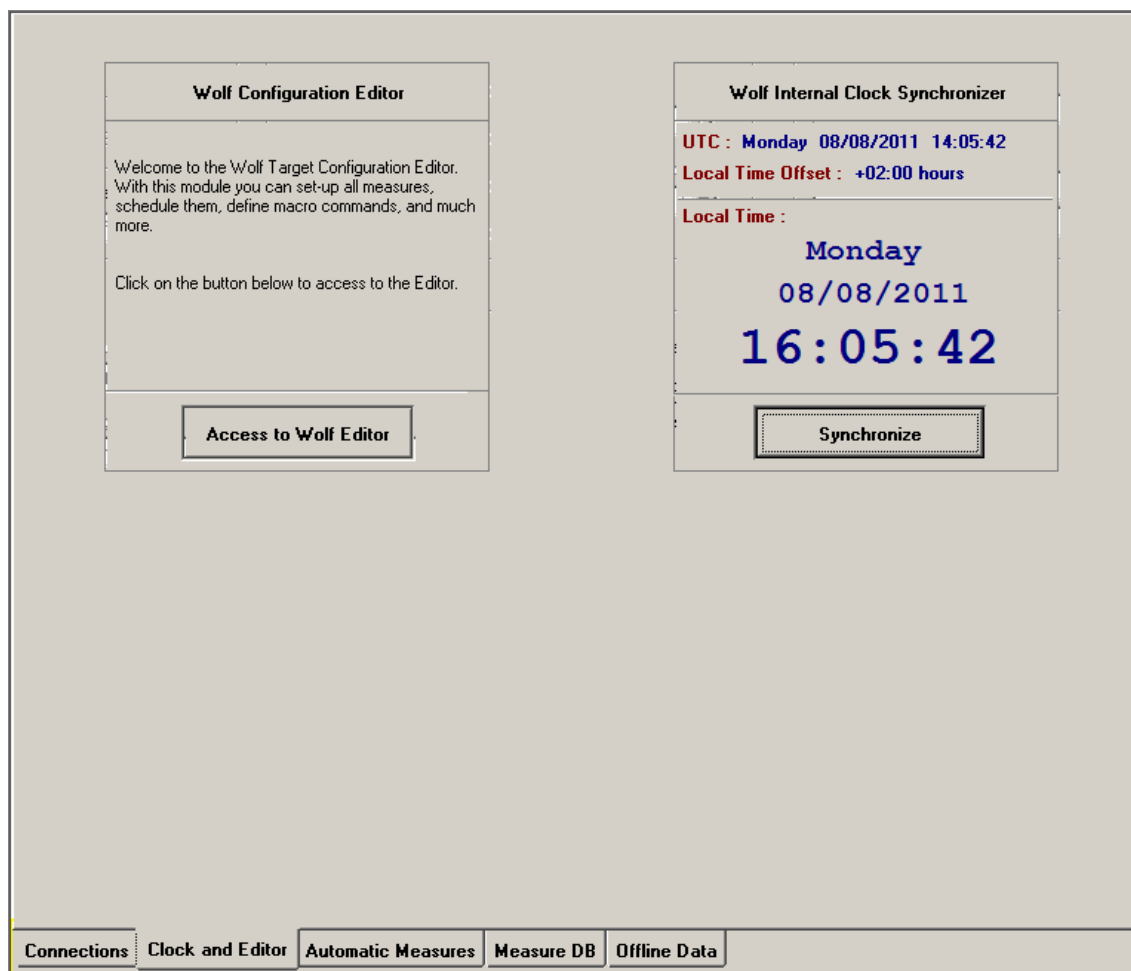


If you press Access to Wolf Editor you will enter the Wolf Network device and so will be able to configure the machine to work in your network.  Once this has been pressed, a window opens where you can send commands to the Wolf

Network device. Clicking the ⇨🖳 IMPORT button allows you to view the data inside the Wolf Network device and configure the setpoints and operating values.

## 22 WOLF NETWORK CONFIGURATION IMPORT / EXPORT FILE

In this part of the control software, you will see various parameters. The first section, shown below, specifies the file name, author, date/time of changes and any notes that may be included for the device in question.

```
;***************************************************************************
;* WOLF NETWORK CONFIGURATION IMPORT/EXPORT FILE
;*
;* FILE : untitled.tcf
;*
;* AUTHOR:
;*
;* DATE : 08/08/2011
;* TIME : 16:10:30
;*
;* NOTES :
;*
;***************************************************************************
```

The lower section, meanwhile, shows the Wolf Network operating values (the settable values are discussed in the next section):

| N° | Parameter name/command | Description | Notes |
|----|------------------------|-------------|-------|
| | | | |
| | [GENERAL_SETTINGS] | Menu name and description | |
| | | | |
| 01 | TARGET_MODEL=Wolf_Slave | Name of connected device | Non-editable field |
| 02 | FIRMWARE_VERSION=2.0 | Firmware release installed on "TARGET_MODEL" | |
| 03 | TARGET_NAME="WF3-Axel" | Name of TARGET_MODEL device which will appear in the software and on the front panel (INFO & ALARMS) of the Wolf Network | |
| 04 | EXTENDED_TARGET_NAME="WF3-Sede Axel" | Full name of TARGET_MODEL device which will appear in the software and on the front panel (INFO & ALARMS) of the Wolf Network | |
| | | | |
| 05 | USER_NAME="" | User name which will be requested when accessing the Wolf Network device via Remoter | If the field is empty, this is not required |
| 06 | PASSWORD="" | Password which will be requested when accessing the Wolf Network device via Remoter | If the field is empty, this is not required |
| 07 | WEB_PASSWORD="" | Password which will be requested when accessing the Wolf Network device via webpage. | If the field is empty, this is not required |
| | | | |
| 08 | KEYBOARD_LOCK=Unlocked | This parameter allows you to lock the Wolf Network device's front keypad. | When locked, the keypad cannot be used. |
| | | | |
| 09 | SNMP_PRIVATE_ACCESS_PASSWORD="private" | Password for writing via SNMP protocol (default setting is "private") | |
| | | | |
| 10 | SERIALS_SPEED=38400_Baud | Speed setting for all three serial ports. This parameter is unique. | Default setting is 38400_Baud |
| 11 | SERIAL_1_MODE=Bidirectional | RS232-1 port connection mode | Monodirectional and Bidirectional |
| 12 | SERIAL_2_MODE=Bidirectional | Rs232-2 port connection mode | Monodirectional and Bidirectional |
| 13 | SERIAL_3_MODE=Uecp | Rs232-3 port connection mode | |
| 14 | ANALOGIC_OUT_LEVEL=+3.5dB | Analog Output Level Setting | |
| | | | |
| 15 | DIGITAL_INTERFACE=On | AES3/EBU output enable | |
| 16 | DIGITAL_OUT_LEVEL=-21.7dBFs | Digital output level | |
| 17 | DIGITAL_OUT_RATE=44.1KHz | Digital output sample rate | |
| | | | |
| 18 | MASK_ALL_ALARMS=Off | This enables or disables alarm reporting by the Wolf device | |
| | | | |
| 19 | WEB_REFRESH_SPEED=Normal | Wolf Web page refresh speed setting | |
| | | | |
| 20 | NETWORK_POSITION=0 | | |
| 21 | NETWORK_POSITION_TIME=0SEC | | |
| | | | |
| 22 | PILOT_PROT_MEASURE=On | Pilot Protection measurement enable | |
| | | | |

| | | | |
|---|---|---|---|
| 23 | RDS_UECP_PROPAGATION=On | Dissemination of UECP data from Wolf device and retransmission thereof, filtered or not, to other UECP compatible devices | See Target Propagation Settings |
| | | | |
| 24 | AUTO_TIME_SYNC=Off | | |
| 25 | EXTENDED_TCPIP_PORT_SEL=Serial_2 | | |
| 26 | NTP_LOCAL_TIME_OFFSET=+0:00 | NTP service offset | |
| | | | |
| | [END_GENERAL_SETTINGS] | | |
| | | | |
| | | | |
| | [TARGET_PROPAGATION_SETTINGS] | | |
| | | | |
| 27 | DEST_ENCODER_ADDRESS=0 | Destination Encoder Address for UECP packets received by Wolf | |
| 28 | DEST_SITE_ADDRESS=0 | Destination Site Address for UECP packets received by Wolf | |
| | | | |
| | [END_TARGET_PROPAGATION_SETTINGS] | | |
| | | | |
| | | | |
| | [MEASURES_SETTINGS] | | |
| | | | |
| 29 | AUDIO_REFERENCE=+3.5dBu | Analog Audio Input Setpoint for both Analog-1 and Analog-2 | |
| 30 | DIGITAL_REFERENCE=-21.7dBFs | Digital Audio Input Setpoint | |
| | | | |
| 31 | MPX_0_REFERENCE=+0.0dBu | Local CoderMPX-0 input setpoint | |
| 32 | MPX_1_REFERENCE=+0.0dBu | MPX-1 input setpoint | |
| 33 | MPX_2_REFERENCE=+0.0dBu | MPX-2 input setpoint | |
| | | | |
| 34 | DECODER_DEEMPHASIS=50us | De-emphasis value setting for decoder MPX | Possible values: 0, 50,75 µS |
| | | | |
| 35 | DECODER_PILOT_RDS_COMPENSATION=1.15dB | This parameter represents a correction factor that is entered to offset the loss of audio level generated on the stereo audio signal, due to the deviation lost because of the Stereo Pilot injection and the Carrier with RDS data modulation. Depending on the Pilot level and the RDS level used, this parameter allows you to bring the audio level meter to zero. | With the same deviation, the audio level changes according to the deviation lost because of the RDS and the Pilot, and this parameter is used to realign the measurement to offset this loss. *The default value is the compensation required for a -21dB pilot and a -28dB RDS.* |
| | | | |
| | [END_MEASURES_SETTINGS] | | |
| | | | |
| | [MASTER_IDENTIFICATION] | | |
| | | | |
| 36 | NATIONAL_MASTER=0 | | |
| 37 | OFFLINE_MASTER_ID=0 | | |
| | | | |
| | [END_MASTER_IDENTIFICATION] | | |
| | | | |
| | [AUTOMATIC_MODE_PRESET] | This section is for changeover operation, with the relative exchange ranking. | |
| | | | |
| 38 | AUTO_AUDIO_MAIN_SEL=Decoder_Mpx1 | Selection of the Main Source for control and broadcasting in Automatic | |
| 39 | AUTO_AUDIO_BACKUP_SRC1_SEL=Decoder_Mpx2 | **FIRST** Back-up broadcasting source | |
| 40 | AUTO_AUDIO_BACKUP_SRC2_SEL=Digital_2 | **SECOND** Back-up broadcasting source | |
| 41 | AUTO_AUDIO_BACKUP_SRC3_SEL=Digital_1 | **THIRD** Back-up broadcasting source | |
| 42 | AUTO_AUDIO_BACKUP_SRC4_SEL=Off | **FOURTH** Back-up broadcasting source | |
| | | | |
| 43 | ALARM_AUDIO_SILENCE_THR=-40.0dB | This parameter sets the audio threshold value below which the sound is considered silence | |
| | | | |
| 44 | ALARM_AUDIO_SILENCE_TIME=5sec | This parameter specifies how long (in seconds) before the audio level below the "ALARM_AUDIO_SILENCE_THR =" value should be considered silence, in which case an | This parameter (43) is strictly linked to parameter 44 |

| | | | |
|---|---|---|---|
| | | alarm will be generated. | |
| 45 | `ALARM_AUDIO_PEAK_THR_LOW=No_Inf_Limit` | This parameter sets the Audio Peak measurement value <u>below</u> which the parameter becomes invalid and an alarm is generated. | `No_Inf_Limit` = control disabled (see protocol) |
| 46 | `ALARM_AUDIO_PEAK_THR_HIGH=+3.0dB` | This parameter sets the Audio Peak measurement value <u>above</u> which the parameter becomes invalid and an alarm is generated. | `No_Sup_Limit` = control disabled (see protocol) |
| 47 | `ALARM_AUDIO_RMS_THR_LOW=No_Inf_Limit` | This parameter sets the Audio RMS measurement value <u>below</u> which the parameter becomes invalid and an alarm is generated. | `No_Inf_Limit` = control disabled (see protocol) |
| 48 | `ALARM_AUDIO_RMS_THR_HIGH=-3.0dB` | This parameter sets the Audio RMS measurement value <u>above</u> which the parameter becomes invalid and an alarm is generated. | `No_Sup_Limit` = control disabled (see protocol) |
| 49 | `ALARM_AUDIO_AVG_RMS_THR_LOW=No_Inf_Limit` | This parameter sets the Audio RMS Average measurement value <u>below</u> which the parameter becomes invalid and an alarm is generated. | `No Inf Limit` = control disabled (see protocol) |
| 50 | `ALARM_AUDIO_AVG_RMS_THR_HIGH=-3.0dB` | This parameter sets the Audio RMS Average measurement value <u>above</u> which the parameter becomes invalid and an alarm is generated. | `No_Sup_Limit` = control disabled (see protocol) |
| 51 | `ALARM_AUDIO_AVG_PEAK_THR_LOW=No_Inf_Limit` | This parameter sets the (average) Audio Peak measurement value <u>below</u> which the parameter becomes invalid and an alarm is generated. | `No Inf Limit` = control disabled (see protocol) |
| 52 | `ALARM_AUDIO_AVG_PEAK_THR_HIGH=+3.0dB` | This parameter sets the (average) Audio Peak measurement value <u>above</u> which the parameter becomes invalid and an alarm is generated. | `No_Sup_Limit` = control disabled (see protocol) |
| 53 | `ALARM_MPX_1_PILOT_THR_LOW=-23.5dB` | This parameter sets the stereophonic pilot carrier (19Hz) measurement value at the MPX-1 input. If the measurement is <u>below</u> the value set, an alarm is generated. | |
| 54 | `ALARM_MPX_1_PILOT_THR_HIGH=-21.5dB` | This parameter sets the stereophonic pilot carrier (19Hz) measurement value at the MPX-1 input. If the measurement is <u>below</u> the value set, an alarm is generated. | |
| 55 | `ALARM_MPX_1_PILOT_PROT_THR=-45.0dB` | This parameter sets the pilot protection measurement value, i.e. the purity (presence or absence of spurious and harmonic emissions, disturbance…) around the 19Hz frequency or the stereophonic pilot. The measurement is taken at the MPX-1 input. If the measurement is <u>above</u> the value set, an alarm is generated. | See the section on Pilot Protection |
| 56 | `ALARM_MPX_1_RDS_THR_LOW=-28.5dB` | This parameter sets the RDS data carrier (57 Hz) measurement value at the MPX-1 input. If the measurement is <u>below</u> the value set, an alarm is generated. | |
| 57 | `ALARM_MPX_1_RDS_THR_HIGH=-25.5dB` | This parameter sets the RDS data carrier (57 Hz) measurement value at the MPX-1 input. If the measurement is <u>below</u> the value set, an alarm is generated. | |
| 58 | `ALARM_MPX_1_PEAK_DEV_THR_LOW=No_Inf_Limit` | This parameter sets the peak deviation of the MPX signal at the MPX-1 input. If the measurement is <u>below</u> the value set, an alarm is generated. | |
| 59 | `ALARM_MPX_1_PEAK_DEV_THR_HIGH=90KHz` | This parameter sets the peak deviation of the MPX signal at the MPX-1 input. If the measurement is <u>above</u> the value set, an alarm is generated. | |
| 60 | `ALARM_MPX_1_ITUB412_THR_LOW=No_Inf_Limit` | This parameter sets the MPX Power (19Hz) measurement value (expressed as recommendations ITU BS 412) at the **MPX-1** input. If the measurement is <u>below</u> the value set, an alarm is generated. | |
| 61 | `ALARM MPX 1 ITUB412 THR HIGH=No Sup Limit` | This parameter sets the MPX Power (19Hz) measurement value (expressed as recommendations ITU BS 412) at the **MPX-1** input. If the measurement is <u>above</u> the value | |

| | | | |
|---|---|---|---|
| | | set, an alarm is generated. | |
| | | | |
| 62 | ALARM_MPX_1_DEC_AUDIO_THR_LOW=No_Inf_Limit | This parameter sets the DECoded audio measurement value at the MPX-1 input. If the measurement is <u>below</u> the value set, an alarm is generated. | No_Inf_Limit = control disabled (see protocol) |
| 63 | ALARM_MPX_1_DEC_AUDIO_THR_HIGH=+3.0dB | This parameter sets the DECoded audio measurement value at the MPX-1 input. If the measurement is <u>above</u> the value set, an alarm is generated. | |
| | | | |
| 64 | ALARM_MPX_1_DEC_AUDIO_SILENCE_THR=-40.0dB | This parameter sets the minimum audio threshold value at the MPX-1 Decoder input below which the sound is considered silence. | |
| 65 | ALARM_MPX_1_DEC_AUDIO_SILENCE_TIME=5sec | This parameter specifies how long (in seconds) before an audio level at MPX-1 DECoder input below the "ALARM_AUDIO_SILENCE_THR =" value should be considered silence, in which case an alarm will be generated. | |
| | | | |
| 66 | ALARM_MPX_2_PILOT_THR_LOW=-23.5dB | This parameter sets the stereophonic pilot carrier (19Hz) measurement value at the MPX-2 input. If the measurement is <u>below</u> the value set, an alarm is generated. | |
| 67 | ALARM_MPX_2_PILOT_THR_HIGH=-20.5dB | This parameter sets the stereophonic pilot carrier (19Hz) measurement value at the MPX-2 input. If the measurement is <u>below</u> the value set, an alarm is generated. | |
| | | | |
| 68 | ALARM_MPX_2_PILOT_PROT_THR=-45.0dB | This parameter sets the pilot protection measurement value, i.e. the purity (presence or absence of spurious and harmonic emissions, disturbance…) around the 19Hz frequency or the stereophonic pilot. The measurement is taken at the MPX-2 input. If the measurement is <u>above</u> the value set, an alarm is generated. | |
| | | | |
| 69 | ALARM_MPX_2_RDS_THR_LOW=-28.5dB | This parameter sets the RDS data carrier (57 Hz) measurement value at the MPX-2 input. If the measurement is <u>below</u> the value set, an alarm is generated. | |
| 70 | ALARM_MPX_2_RDS_THR_HIGH=-26.5dB | This parameter sets the RDS data carrier (57 Hz) measurement value at the MPX-2 input. If the measurement is <u>below</u> the value set, an alarm is generated. | |
| | | | |
| 71 | ALARM MPX 2 PEAK DEV THR LOW=No Inf Limit | This parameter sets the *Peak* deviation of the MPX signal at the **MPX-2** input. If the measurement is <u>below</u> the value set, an alarm is generated. | |
| 72 | ALARM_MPX_2_PEAK_DEV_THR_HIGH=90KHz | This parameter sets the *Peak* deviation of the MPX signal at the **MPX-2** input. If the measurement is <u>above</u> the value set, an alarm is generated. | |
| | | | |
| 73 | ALARM MPX 2 ITUB412 THR LOW=No Inf Limit | This parameter sets the MPX Power (19Hz) measurement value (expressed as recommendations ITU BS 412) at the **MPX-2** input. If the measurement is <u>below</u> the value set, an alarm is generated. | |
| 74 | ALARM_MPX_2_ITUB412_THR_HIGH=No_Sup_Limit | This parameter sets the MPX Power (19Hz) measurement value (expressed as recommendations ITU BS 412) at the **MPX-2** input. If the measurement is <u>above</u> the value set, an alarm is generated. | |
| 75 | ALARM_MPX_2_DEC_AUDIO_THR_LOW=No_Inf_Limit | This parameter sets the DECoded audio measurement value at the MPX-2 input. If the measurement is <u>below</u> the value set, an alarm is generated. | |
| 76 | ALARM_MPX_2_DEC_AUDIO_THR_HIGH=+3.0dB | This parameter sets the DECoded audio measurement value at the MPX-2 input. If the measurement is <u>above</u> the value set, an alarm is generated. | |
| | | | |

| | | | |
|---|---|---|---|
| 77 | `ALARM MPX 2 DEC AUDIO SILENCE THR=-40.0dB` | This parameter sets the minimum audio threshold value at the MPX-2 *DEC*oder input below which the sound is considered silence. | |
| 78 | `ALARM_MPX_2_DEC_AUDIO_SILENCE_TIME=5sec` | This parameter specifies how long (in seconds) before an audio level at MPX-2 *DEC*oder input below the `ALARM_AUDIO_SILENCE_THR=` value should be considered silence, in which case an alarm will be generated | |
| | | | |
| 79 | `ALARM_FM_MPX_PILOT_THR_LOW=-23.5dB` | This parameter sets the stereophonic pilot carrier (19Hz) measurement value at the FM input (Monitor-RF). If the measurement is <u>below</u> the value set, an alarm is generated. | |
| 80 | `ALARM_FM_MPX_PILOT_THR_HIGH=-21.5dB` | This parameter sets the stereophonic pilot carrier (19Hz) measurement value at the FM input (Monitor-RF). If the measurement is <u>above</u> the value set, an alarm is generated. | |
| | | | |
| 81 | `ALARM_FM_MPX_PILOT_PROT_THR=-35.0dB` | This parameter sets the pilot protection measurement value, i.e. the purity (presence or absence of spurious and harmonic emissions, disturbance…) around the 19Hz frequency or the stereophonic pilot. The measurement is taken at the FM input (Monitor-RF). If the measurement is <u>above</u> the value set, an alarm is generated. | |
| | | | |
| 82 | `ALARM_FM_MPX_RDS_THR_LOW=-28.5dB` | This parameter sets the RDS data carrier (57 Hz) measurement value at the FM input (Monitor-RF). If the measurement is <u>below</u> the value set, an alarm is generated. | |
| 83 | `ALARM_FM_MPX_RDS_THR_HIGH=-26.5dB` | This parameter sets the RDS data carrier 57 Hz) measurement value at the FM input (Monitor-RF). If the measurement is <u>above</u> the value set, an alarm is generated. | |
| | | | |
| 84 | `ALARM_FM_MPX_PEAK_DEV_THR_LOW=No_Inf_Limit` | This parameter sets the *Peak* deviation of the MPX signal at the FM input (Monitor-RF). If measurement is <u>below</u> the value set, an alarm is generated. | |
| 85 | `ALARM_FM_MPX_PEAK_DEV_THR_HIGH=90KHz` | This parameter sets the *Peak* deviation of the MPX signal at the FM input (Monitor-RF). If measurement is <u>above</u> the value set, an alarm is generated. | |
| | | | |
| 86 | `ALARM_FM_MPX_ITUB412_THR_LOW=No_Inf_Limit` | This parameter sets the MPX Power measurement value (expressed as recommendations ITU BS 412) at the FM input (Monitor-RF). If the measurement is <u>below</u> the value set, an alarm is generated. | |
| 87 | `ALARM FM MPX ITUB412 THR HIGH=No Sup Limit` | This parameter sets the MPX Power measurement value (expressed as recommendations ITU BS 412) at the FM input (Monitor-RF). If the measurement is <u>above</u> the value set, an alarm is generated. | |
| | | | |
| 88 | `ALARM_FM_MPX_DEC_AUDIO_PEAK_THR_LOW=No_Inf_Limit` | This parameter sets the Peak DECoded audio measurement value at the FM input (Monitor-RF). If the measurement is <u>below</u> the value set, an alarm is generated. | |
| 89 | `ALARM_FM_MPX_DEC_AUDIO_PEAK_THR_HIGH=+3.0dB` | This parameter sets the Peak *DEC*oded audio measurement value at the FM input (Monitor-RF). If the measurement is <u>above</u> the value set, an alarm is generated. | |
| | | | |
| 90 | `ALARM_FM_MPX_DEC_AUDIO_PEAK_SILENCE_THR=-40.0dB` | This parameter sets the minimum audio threshold value at the FM *DEC*oder input (Monitor-RF) below which the sound is considered silence. | |
| 91 | `ALARM_FM_MPX_DEC_AUDIO_PEAK_SILENCE_TIME=5sec` | This parameter specifies how long (in seconds) before an audio level at FM *DEC*oder input (Monitor-RF) below the `ALARM_AUDIO_SILENCE_THR=` value should | |

| | | | |
|---|---|---|---|
| | | be considered silence, in which case an alarm will be generated | |
| | | | |
| 92 | `ALARM_MPX_0_PILOT_THR_LOW=-23.5dB` | This parameter sets the stereophonic pilot carrier (19 Hz) measurement value at the MPX-0 input. If the measurement is <u>below</u> the value set, an alarm is generated. | |
| 93 | `ALARM_MPX_0_PILOT_THR_HIGH=-21.5dB` | This parameter sets the stereophonic pilot carrier (19 Hz) measurement value at the MPX-0 input. If the measurement is <u>below</u> the value set, an alarm is generated. | |
| | | | |
| 94 | `ALARM_MPX_0_PILOT_PROT_THR=-50.0dB` | This parameter sets the pilot protection measurement value, i.e. the purity (presence or absence of spurious and harmonic emissions, disturbance…) around the 19Hz frequency or the stereophonic pilot. The measurement is taken at the FM input (Monitor-RF). If the measurement is <u>above</u> the value set, an alarm is generated. | |
| | | | |
| 95 | `ALARM_MPX_0_RDS_THR_LOW=-28.5dB` | This parameter sets the RDS data carrier (57 Hz) measurement value at the MPX-0 input. If the measurement is <u>below</u> the value set, an alarm is generated. | |
| 96 | `ALARM_MPX_0_RDS_THR_HIGH=-26.5dB` | This parameter sets the RDS data carrier (57 Hz) measurement value at the MPX-0 input. If the measurement is <u>above</u> the value set an alarm is generated. | |
| | | | |
| 97 | `ALARM_MPX_0_PEAK_DEV_THR_LOW=No_Inf_Limit` | This parameter sets the *Peak* deviation of the MPX signal at the MPX-0 input. If the measurement is <u>below</u> the value set an alarm is generated. | |
| 98 | `ALARM_MPX_0_PEAK_DEV_THR_HIGH=90KHz` | This parameter sets the *Peak* deviation of the MPX signal at the MPX-0 input. If the measurement is <u>above</u> the value set, an alarm is generated. | |
| | | | |
| 99 | `ALARM MPX 0 ITUB412 THR LOW=No Inf Limit` | This parameter sets the MPX-0 Power (19 Hz) measurement value (expressed as recommendations ITU BS 412) at the MPX-0 input. If the measurement is <u>below</u> the value set, an alarm is generated. | |
| 100 | `ALARM_MPX_0_ITUB412_THR_HIGH=No_Sup_Limit` | This parameter sets the MPX-0 Power (19Hz) measurement value (expressed as recommendations ITU BS 412) at the MPX-0 input. If the measurement is <u>above</u> the value set, an alarm is generated. | |
| | | | |
| 101 | `ALARM_MPX_0_DEC_AUDIO_PEAK_THR_LOW=No_Inf_Limit` | This parameter sets the Peak *DEC*oded audio measurement value at the MPX-0 input. If the measurement is <u>below</u> the value set, an alarm is generated. | |
| 102 | `ALARM_MPX_0_DEC_AUDIO_PEAK_THR_HIGH=+1.0dB` | This parameter sets the Peak *DEC*oded audio measurement value at the MPX-0 input. If the measurement is <u>above</u> the value set an alarm is generated. | |
| | | | |
| 103 | `ALARM_MPX_0_DEC_AUDIO_PEAK_SILENCE_THR=-40.0dB` | This parameter sets the minimum audio threshold value at the MPX-0 *DEC*oder input below which the sound is considered silence. | |
| 104 | `ALARM MPX 0 DEC AUDIO PEAK SILENCE TIME =5sec` | This parameter specifies how long (in seconds) before an audio level at MPX-0 *DEC*oder input below the "ALARM_AUDIO_SILENCE_THR=" value should be considered silence, in which case an alarm will be generated. | |
| | | | |
| 105 | `AUTO_RDS_DECODER_SOURCE_SEL=Mpx1` | This parameter specifies which MPX source should be connected to the RDS decoder in order to view, control and monitor RDS data. | |
| | | | |
| 106 | `AUTO_TUNER_FREQUENCY=100.80MHz` | In this parameter you can set the tuning | |

| | | | |
|---|---|---|---|
| | | frequency of the internal FM tuner (Monitor-RF). | |
| | | | 41 |
| | | | |
| | [END_AUTOMATIC_MODE_PRESET] | | |
| | | | |
| | | | |
| | [RDS_MASK_SETTINGS] | In this menu you can set the RDS service parameters to compare them with those from the RDS decoder. If what is actually decoded does not tally with what is written below, alarms may be generated (which can be enabled or not). | |
| | | | |
| 107 | TRAFFIC_ANNOUNCEMENT=On | TA status setting | See RDS protocol |
| 108 | TRAFFIC_PROGRAM=On | TA status setting | See RDS protocol |
| 109 | ALTERNATIVE_FREQUENCIES=On | Alternative Frequencies status setting | See RDS protocol |
| 110 | MUSIC_SPEECH=Music | M/S status setting | See RDS protocol |
| 111 | DECODER IDENTIFICATION=Stereo Static Pt y | DI status setting | See RDS protocol |
| 112 | PROGRAM_TYPE=News | Program Type status setting | See RDS protocol |
| 113 | PROGRAM_SERVICE_NAME="RTL " | PSN status setting | See RDS protocol |
| 114 | PROGRAM_IDENTIFICATION=5201 | PI value setting | See RDS protocol |
| | | | |
| | [END_RDS_MASK_SETTINGS] | | |
| | | | |
| | | | |
| | [ALARM_GENERAL_MASK] | This menu allows you decide whether or not to mask the presence of certain conditions or errors detected by the Wolf. | |
| | | | |
| 115 | MAIN_SILENCE=On | This parameter is used to display (or not) the silence setting at the main input. | See parameter 38 |
| 116 | MAIN_AUDIO_PEAK=On | This parameter is used to display (or not) Audio Peak errors at the main input. | |
| 117 | MAIN_AUDIO_AVG_PEAK=On | This parameter is used to display (or not) Audio Average Peak errors at the main input | |
| 118 | MAIN_AUDIO_RMS=On | This parameter is used to display (or not) Audio RMS errors at the main input. | |
| 119 | MAIN_AUDIO_AVG_RMS=On | This parameter is used to display (or not) Audio Average RMS errors at the main input. | |
| 120 | MPX1_PILOT=On | This parameter is used to display (or not) the stereophonic pilot (19 Hz) at the MPX-1 input. | |
| 121 | MPX1_RDS=On | This parameter is used to display (or not) the RDs service (57 Hz) at the MPX-1 input. | |
| 122 | MPX1_DEVIATION=On | This parameter is used to display (or not) the "Excess or No deviation" error at the MPX-1 input. | |
| 123 | MPX1_ITUBS412=Off | This parameter is used to display (or not) the ITU-R BS412 error at the MPX-1 input. | |
| 124 | MPX1_PILOT_PROTECTION=Off | This parameter is used to display (or not) the Pilot Protection control error at the MPX-1 input. | |
| 125 | MPX1_DECODER_SILENCE=Off | This parameter is used to display (or not) the decoded audio control (intended as the presence of silence) from the MPX-1 input. | |
| 126 | MPX1_DECODER_RMS=Off | This parameter is used to display (or not) the decoded audio control (expressed as RMS) from the MPX-1 input. | |
| 127 | MPX2_PILOT=On | This parameter is used to display (or not) the stereophonic pilot (19 Hz) at the MPX-2 input. | |
| 128 | MPX2_RDS=On | This parameter is used to display (or not) the RDs service (57 Hz) at the MPX-2 input. | |
| 129 | MPX2_DEVIATION=On | This parameter is used to display (or not) "Excess or No deviation" errors at the MPX-2 input. | |
| 130 | MPX2_ITUBS412=Off | This parameter is used to display (or not) ITU-R BS412 errors at the MPX-2 input. | |
| 131 | MPX2_PILOT_PROTECTION=On | This parameter is used to display (or not) Pilot Protection control errors at the MPX-2 input. | |
| 132 | MPX2_DECODER_SILENCE=On | This parameter is used to display (or not) the decoded audio control (intended as the presence of silence) from the MPX-2 input. | |

| 133 | MPX2_DECODER_RMS=On | This parameter is used to display (or not) the decoded audio control (expressed as RMS) from the MPX-2 input. | |
|---|---|---|---|
| 134 | FM_MPX_PILOT=On | This parameter is used to display (or not) the stereophonic pilot (19 Hz) at the FM input (Monitor-RF). | |
| 135 | FM_MPX_RDS=On | This parameter is used to display (or not) the RDS service (57 Hz) at the FM input (Monitor-RF). | |
| 136 | FM_MPX_DEVIATION=On | This parameter is used to display (or not) "Excess or No deviation" errors at the FM input (Monitor-RF). | |
| 137 | FM_MPX_ITUBS412=On | This parameter is used to display (or not) ITU-R BS412 errors at the FM input (Monitor-RF). | |
| 138 | FM_MPX_PILOT_PROTECTION=On | This parameter is used to display (or not) Pilot Protection control errors at the FM input (Monitor-RF). | |
| 139 | FM_MPX_DECODER_SILENCE=On | This parameter is used to display (or not) the decoded audio control (intended as the presence of silence) from the FM input (Monitor-RF). | |
| 140 | FM_MPX_DECODER_RMS=On | This parameter is used to display (or not) the decoded audio control (expressed as RMS) from the FM input (Monitor-RF). | |
| 141 | MPX0_PILOT=On | This parameter is used to display (or not) the stereophonic pilot (19 Hz) at the MPX-0 input. | |
| 142 | MPX0_RDS=On | This parameter is used to display (or not) the RDs service (57 Hz) at the MPX-0 input. | |
| 143 | MPX0_DEVIATION=On | This parameter is used to display (or not) "Excess or No deviation" errors at the MPX-0 input. | |
| 144 | MPX0_ITUBS412=Off | This parameter is used to display (or not) ITU-R BS412 errors at the MPX-0 input. | |
| 145 | MPX0_PILOT_PROTECTION=On | This parameter is used to display (or not) Pilot Protection control errors at the MPX-0 input. | |
| 146 | MPX0_DECODER_SILENCE=On | This parameter is used to display (or not) the decoded audio control (intended as the presence of silence) from the MPX-0 input. | |
| 147 | MPX0_DECODER_PEAK=On | This parameter is used to display (or not) the Peak decoded audio control from the MPX-0 input. | |
| 148 | RDS_QUALITY=Off | Alarm generation and display re. quality of the RDS service (expressed as a %) | Inherent to the MAIN input |
| 149 | RDS_PI=On | Alarm generation and display re. PI control. If this does not match the setting, an alarm is generated. | Inherent to the MAIN input |
| 150 | RDS_DI=On | Alarm generation and display re. DI control. If this does not match the setting, an alarm is generated | |
| 151 | RDS_PTY=On | Alarm generation and display re. Program Type control. If this does not match the setting, an alarm is generated. | Inherent to the MAIN input |
| 152 | RDS_TP=On | Alarm generation and display re. Traffic Program status control. If this does not match the setting, an alarm is generated | Inherent to the MAIN input |
| 153 | RDS_MS=On | Alarm generation and display re. Music/Speech status control. If this does not match the setting, an alarm is generated | Inherent to the MAIN input |
| 154 | RDS_PS=On | Alarm generation and display re. Program Service status control. If this does not match the setting, an alarm is generated. | Inherent to the MAIN input |
| 155 | RDS_TMC=Off | Alarm generation and display re. the presence of traffic information (TMC). | Inherent to the MAIN input |
| 156 | RDS_EON=Off | Alarm generation and display re. the presence of the Enhance Other Network control. | Inherent to the MAIN input |
| 157 | RDS_AF=On | Alarm generation and display re. the presence of the Alternative Frequencies List control. | Inherent to the MAIN input |
| 158 | FM_RDS_QUALITY=Off | Alarm and generation display re. quality of the RDS service (expressed as a %) | Inherent to the FM input (Monitor-RF) |
| 159 | FM_RDS_PI=On | Alarm generation and display re. PI control. If this does not match the setting, an alarm is generated | Inherent to the FM input (Monitor-RF) |
| 160 | FM_RDS_PTY=Off | Alarm generation and display re. Program Type control. If this does not match the setting, an | Inherent to the FM input (Monitor-RF) |

| | | alarm is generated. | |
|------|--------------------------------|-----------------------------------------------------------------------------------------------------|-------------------------------------------|
| 161 | FM_RDS_TP=Off | Alarm generation and display re. Traffic Program status control. If this does not match the setting, an alarm is generated | Inherent to the FM input (Monitor-RF) |
| 162 | FM_RDS_MS=Off | Alarm generation and display re. Music/Speech status control. If this does not match the setting, an alarm is generated | Inherent to the FM input (Monitor-RF) |
| 163 | FM_RDS_AF=Off | Alarm generation and display re. the presence of the Alternative Frequencies List control | Inherent to the FM input (Monitor-RF) |
| 164 | MPX1_ERRORS=On | ERROR control enable at MPX-1 input | |
| 165 | MPX2_ERRORS=On | ERROR control enable at MPX-2 input | |
| 166 | FM_ERRORS=On | ERROR control enable at FM input | |
| 167 | MPX0_ERRORS=On | ERROR control enable at MPX-0 input | |
| 168 | AUDIO_MAIN_ERRORS=On | ERROR control enable at MAIN input | |
| 169 | DECODERS_SYNC=Off | Decoder Sync loss control enable | |
| 170 | MASTER_SYNC_MISSING=Off | Wolf Master Sync loss control enable | |
| 171 | DIFF_MAIN_AUDIO_RMS=Off | | |
| 172 | DIFF_MAIN_AUDIO_PEAK=Off | | |
| 173 | SYSTEM_FAILURE=Off | System Failure display | |
| 174 | EMERGENCY=Off | Emergency operation status display | |
| 175 | SYSTEM_CRITICAL=Off | Critical operation status display | |
| 176 | BACKUP_FAILURE=On | Backup invalid status display | |
| 177 | COMMUNICATION_ERRORS=Off | Communication error display | |
| 178 | TEMPERATURE=Off | High internal Wolf temperature display. | |
| | | | |
| | [END_ALARM_GENERAL_MASK] | | |
| | | | |
| | | | |
| | [RDS_UECP_SERVICES] | These parameters can be used to enable (or not) UECP data propagation | |
| | | | |
| 179 | TA_TP_PROPAGATION=On | Diffusion of TA/TP status data | |
| 180 | PS_PROPAGATION=On | Diffusion of Program Service data | |
| 181 | RT_PROPAGATION=On | Diffusion of Radio Text data | |
| 182 | DI_PROPAGATION=On | Diffusion of Decoder Inform. status data. | |
| 183 | MS_PROPAGATION=On | Diffusion of Music/Speech status data. | |
| 184 | PTY_PROPAGATION=On | Diffusion of Program Type data | |
| 185 | PI_PROPAGATION=On | Diffusion of Program Identif. data. | |
| 186 | TMC_RTPLUS_PROPAGATION=On | Diffusion of Traffic Message Channel and Radio Text Plus data. | |
| | | | |
| | [END_RDS_UECP_SERVICES] | | |

Once you have finished configuring the Wolf Network device, press the Export key to export the Work done stored inside the device.



You can also check for protocol errors by clicking the Check key.



if you need help about the values admitted by the Parser, press the "?" key visible before the Exit button.
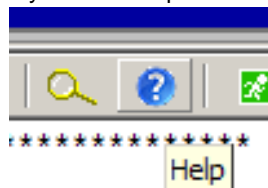


To quit, press the EXIT button.

## 23 SYNTAX OF THE WOLF ASCII PARSER (v1.2.0)

The table below shows the admissible value for each setting/parameter.

| N° | Nome parametro/Comando | Valore ammissibile secondo PARSER | Note |
|----|------------------------|-----------------------------------|------|
| | [GENERAL_SETTINGS] | | |
| 01 | TARGET_MODEL=Wolf_Slave | Wolf_Slave, Wolf_Master | |
| 02 | FIRMWARE VERSION=2.0 | 2.0 | |
| 03 | TARGET_NAME="WF3-Axel" | Nome Target" ;<br>up to 12 characters (Panel ViewName) | |
| 04 | EXTENDED_TARGET_NAME="WF3-Sede Axel" | Extended Target Name" ; up to 24 characters (Program View Only Name) | |
| 05 | USER_NAME="" | up to 12 characters | |
| 06 | PASSWORD="" | up to 12 characters | |
| 07 | WEB_PASSWORD="" | up to 12 characters | |
| 08 | KEYBOARD_LOCK=Unlocked | {Unlocked, Locked} | Panel Keyboard Lock |
| 09 | SNMP_PRIVATE_ACCESS_PASSWORD="private" | up to 12 characters | private |
| 10 | SERIALS SPEED=38400 Baud | 9600 Baud, 19200 Baud, 38400 Baud | |
| 11 | SERIAL_1_MODE=Bidirectional | Unidirectional, Bidirectional | |
| 12 | SERIAL_2_MODE=Bidirectional | Unidirectional, Bidirectional | |
| 13 | SERIAL_3_MODE=Uecp | Uecp, Gsm_Modem | |
| 14 | ANALOGIC_OUT_LEVEL=+3.5dB | Off, -12.0dB, -11.9dB,..., +12.0dB | |
| 15 | DIGITAL_INTERFACE=On | Off, On | |
| 16 | DIGITAL_OUT_LEVEL=-21.7dBFs | -30.0dBFs, -29.9dBFs, ..., -5.0dBFs | |
| 17 | DIGITAL_OUT_RATE=44.1KHz | 44.1KHz, 48KHz, 96KHz | |
| 18 | MASK ALL ALARMS=Off | Off, On | |
| 19 | WEB_REFRESH_SPEED=Normal | Slow, Normal, Fast | |
| 20 | NETWORK_POSITION=0 | 0, 1, ..., 255 | |
| 21 | NETWORK_POSITION_TIME=0SEC | 0sec, 1sec, ..., 20sec | |
| 22 | PILOT_PROT_MEASURE=On | Off, On | |
| 23 | RDS UECP PROPAGATION=On | Off, On | |
| 24 | AUTO_TIME_SYNC=Off | Off, Ntp, Uecp | |
| 25 | EXTENDED_TCPIP_PORT_SEL=Serial_2 | Serial_2, Extended_Port | |
| 26 | NTP_LOCAL_TIME_OFFSET=+0:00 | +00:00, +00:30, +01:00, ..., +12:00,<br>-00:30, -01:00, ..., -12:00 | |
| | [END_GENERAL_SETTINGS] | | |
| | [TARGET_PROPAGATION_SETTINGS] | | |
| 27 | DEST_ENCODER_ADDRESS=0 | 0, ..., 63 | |
| 28 | DEST_SITE_ADDRESS=0 | 0, ..., 1023 | |
| | [END_TARGET_PROPAGATION_SETTINGS] | | |
| | [MEASURES_SETTINGS] | | |
| 29 | AUDIO_REFERENCE=+3.5dBu | -6.0dBu, -5.9dBu, ..., +13.0dBu | |
| 30 | DIGITAL REFERENCE=-21.7dBFs | -30.0dBFs, -29.9dBFs, ..., -5.0dBFs | |
| 31 | MPX_0_REFERENCE=+0.0dBu | -6.0dBu, -5.9dBu, ..., +13.0dBu | |
| 32 | MPX_1_REFERENCE=+0.0dBu | -6.0dBu, -5.9dBu, ..., +13.0dBu | |
| 33 | MPX_2_REFERENCE=+0.0dBu | -6.0dBu, -5.9dBu, ..., +13.0dBu | |

| | | | |
|---|---|---|---|
| 34 | DECODER_DEEMPHASIS=50us | Off, 50us, 75us | |
| | | | |
| 35 | DECODER_PILOT_RDS_COMPENSATION=1.15dB | 0.00dB, 0.01dB,..., 2.55dB | |
| | | | |
| | [END_MEASURES_SETTINGS] | | |
| | | | |
| | [MASTER_IDENTIFICATION] | | |
| | | | |
| 36 | NATIONAL_MASTER=0 | | |
| 37 | OFFLINE_MASTER_ID=0 | | |
| | | | |
| | [END_MASTER_IDENTIFICATION] | | |
| | | | |
| | [AUTOMATIC_MODE_PRESET] | | |
| | | | |
| 38 | AUTO_AUDIO_MAIN_SEL=Decoder_Mpx1 | Analogic_1, Digital_1, Digital_2, Decoder_Mpx1 | |
| 39 | AUTO_AUDIO_BACKUP_SRC1_SEL=Decoder_Mpx2 | Off, Analogic_2, Digital_1, Digital_2, Decoder_Mpx2 | |
| 40 | AUTO_AUDIO_BACKUP_SRC2_SEL=Digital_2 | Off, Analogic_2, Digital_1, Digital_2, Decoder_Mpx2 | |
| 41 | AUTO_AUDIO_BACKUP_SRC3_SEL=Digital_1 | Off, Analogic_2, Digital_1, Digital_2, Decoder_Mpx2 | |
| 42 | AUTO_AUDIO_BACKUP_SRC4_SEL=Off | Off, Analogic_2, Digital_1, Digital_2, Decoder_Mpx2 | |
| | | | |
| 43 | ALARM_AUDIO_SILENCE_THR=-40.0dB | No Inf Limit, -99.0dB, -98.0dB, ..., -20.0dB, -19.8dB, -19.6 dB, ..., +12.0dB, No_Sup_Limit | |
| | | | |
| 44 | ALARM_AUDIO_SILENCE_TIME=5sec | 1sec, 2sec, ..., 180sec | |
| | | | |
| 45 | ALARM_AUDIO_PEAK_THR_LOW=No_Inf_Limit | No_Inf_Limit, -99.0dB, -98.0dB, ..., -20.0dB, -19.8dB, -19.6 dB, ..., +12.0dB, No Sup Limit | |
| 46 | ALARM_AUDIO_PEAK_THR_HIGH=+3.0dB | No_Inf_Limit, -99dB, -98dB, ..., -10dB, -9.9dB, -9.8 dB, ..., +12.0dB, No_Sup_Limit | |
| | | | |
| 47 | ALARM_AUDIO_RMS_THR_LOW=No_Inf_Limit | No Inf Limit, -99.0dB, -98.0dB, ..., -20.0dB, -19.8dB, -19.6 dB, ..., +12.0dB, No_Sup_Limit | |
| 48 | ALARM_AUDIO_RMS_THR_HIGH=-3.0dB | No_Inf_Limit, -99.0dB, -98.0dB, ..., -20.0dB, -19.8dB, -19.6 dB, ..., +12.0dB, No_Sup_Limit | |
| | | | |
| 49 | ALARM_AUDIO_AVG_RMS_THR_LOW=No_Inf_Limit | No Inf Limit, -99.0dB, -98.0dB, ..., -20.0dB, -19.8dB, -19.6 dB, ..., +12.0dB, No_Sup_Limit | |
| 50 | ALARM_AUDIO_AVG_RMS_THR_HIGH=-3.0dB | | |
| | | | |
| 51 | ALARM_AUDIO_AVG_PEAK_THR_LOW=No_Inf_Limit | No_Inf_Limit, -99.0dB, -98.0dB, ..., -20.0dB, -19.8dB, -19.6 dB, ...,+12.0dB, No Sup Limit | |
| 52 | ALARM_AUDIO_AVG_PEAK_THR_HIGH=+3.0dB | No_Inf_Limit, -99.0dB, -98.0dB, ..., -20.0dB, -19.8dB, -19.6 dB, ...,+12.0dB, No Sup Limit | |
| | | | |
| 53 | ALARM_MPX_1_PILOT_THR_LOW=-23.5dB | No Inf Limit, -39.9dB, -39.8dB, ..., -15.0dB, No_Sup_Limit | |
| 54 | ALARM_MPX_1_PILOT_THR_HIGH=-21.5dB | No Inf Limit, -39.9dB, -39.8dB, ..., -15.0dB, No_Sup_Limit | |
| | | | |
| 55 | ALARM_MPX_1_PILOT_PROT_THR=-45.0dB | No_Inf_Limit, -99.0dB, -98.0dB, ..., -20.0dB, -19.8dB, -19.6 dB, ..., +6.0dB, No_Sup_Limit | |
| | | | |
| 56 | ALARM_MPX_1_RDS_THR_LOW=-28.5dB | No_Inf_Limit, -39.9dB, -39.8dB, ..., -15.0dB, No Sup Limit | |
| 57 | ALARM_MPX_1_RDS_THR_HIGH=-25.5dB | No Inf Limit, -39.9dB, -39.8dB, ..., -15.0dB, No_Sup_Limit | |

| 58 | ALARM_MPX_1_PEAK_DEV_THR_LOW=No_Inf_Limit | No Inf Limit, 1KHz, 2KHz, ..., 150KHz, No_Sup_Limit | |
| 59 | ALARM_MPX_1_PEAK_DEV_THR_HIGH=90KHz | No_Inf_Limit, 1KHz, 2KHz, ..., 150KHz, No_Sup_Limit | |
| | | | |
| 60 | ALARM_MPX_1_ITUB412_THR_LOW=No_Inf_Limit | No_Inf_Limit, -99.0dB, -98.0dB, ..., -20.0dB, -19.8dB, -19.6 dB, ..., +12.0dB, No_Sup_Limit | |
| 61 | ALARM MPX 1 ITUB412 THR HIGH=No Sup Limit | No Inf Limit, -99.0dB, -98.0dB, ..., -20.0dB, -19.8dB, -19.6 dB, ..., +12.0dB, No_Sup_Limit | |
| | | | |
| 62 | ALARM_MPX_1_DEC_AUDIO_THR_LOW=No_Inf_Limit | No Inf Limit, -99.0dB, -98.0dB, ..., -20.0dB, -19.8dB, -19.6 dB, ...,+12.0dB, No_Sup_Limit | |
| 63 | ALARM_MPX_1_DEC_AUDIO_THR_HIGH=+3.0dB | No_Inf_Limit, -99.0dB, -98.0dB, ..., -20.0dB, -19.8dB, -19.6 dB, ...,+12.0dB, No Sup Limit | |
| | | | |
| 64 | ALARM MPX 1 DEC AUDIO SILENCE THR=-40.0dB | No Inf Limit, -99.0dB, -98.0dB, ..., -20.0dB, -19.8dB, -19.6 dB, ...,+12.0dB, No_Sup_Limit | |
| 65 | ALARM_MPX_1_DEC_AUDIO_SILENCE_TIME=5sec | 1sec, 2sec, ..., 180sec | |
| | | | |
| 66 | ALARM_MPX_2_PILOT_THR_LOW=-23.5dB | No_Inf_Limit, -39.9dB, -39.8dB, ..., -15.0dB, No_Sup_Limit | |
| 67 | ALARM_MPX_2_PILOT_THR_HIGH=-20.5dB | No_Inf_Limit, -39.9dB, -39.8dB, ..., -15.0dB, No_Sup_Limit | |
| | | | |
| 68 | ALARM_MPX_2_PILOT_PROT_THR=-45.0dB | No_Inf_Limit, -99.0dB, -98.0dB, ..., -20.0dB, -19.8dB, -19.6 dB, ..., +12.0dB, No Sup Limit | |
| | | | |
| 69 | ALARM_MPX_2_RDS_THR_LOW=-28.5dB | No Inf Limit, -39.9dB, -39.8dB, ..., -15.0dB, No_Sup_Limit | |
| 70 | ALARM_MPX_2_RDS_THR_HIGH=-26.5dB | No Inf Limit, -39.9dB, -39.8dB, ..., -15.0dB, No_Sup_Limit | |
| | | | |
| 71 | ALARM_MPX_2_PEAK_DEV_THR_LOW=No_Inf_Limit | No_Inf_Limit, 1KHz, 2KHz, ..., 150KHz, No_Sup_Limit | |
| 72 | ALARM_MPX_2_PEAK_DEV_THR_HIGH=90KHz | No_Inf_Limit, 1KHz, 2KHz, ..., 150KHz, No Sup Limit | |
| | | | |
| 73 | ALARM_MPX_2_ITUB412_THR_LOW=No_Inf_Limit | No_Inf_Limit, -99.0dB, -98.0dB, ..., -20.0dB, -19.8dB, -19.6 dB, ..., +12.0dB, No_Sup_Limit | |
| 74 | ALARM MPX 2 ITUB412 THR HIGH=No Sup Limit | {No Inf Limit, -99.0dB, -98.0dB, ..., -20.0dB, -19.8dB, -19.6 dB, ..., +12.0dB, No_Sup_Limit | |
| 75 | ALARM_MPX_2_DEC_AUDIO_THR_LOW=No_Inf_Limit | No Inf Limit, -99.0dB, -98.0dB, ..., -20.0dB, -19.8dB, -19.6 dB, ...,+12.0dB, No_Sup_Limit | |
| 76 | ALARM_MPX_2_DEC_AUDIO_THR_HIGH=+3.0dB | No_Inf_Limit, -99.0dB, -98.0dB, ..., -20.0dB, -19.8dB, -19.6 dB, ...,+12.0dB, No_Sup_Limit} | |
| | | | |
| 77 | ALARM_MPX_2_DEC_AUDIO_SILENCE_THR=-40.0dB | No_Inf_Limit, -99.0dB, -98.0dB, ..., -20.0dB,-19.8dB,-19.6 dB, ...,+12.0dB, No_Sup_Limit | |
| 78 | ALARM_MPX_2_DEC_AUDIO_SILENCE_TIME=5sec | 1sec, 2sec, ..., 180sec | |
| | | | |
| 79 | ALARM_FM_MPX_PILOT_THR_LOW=-23.5dB | No Inf Limit, -39.9dB, -39.8dB, ..., -15.0dB, No_Sup_Limit | |
| 80 | ALARM_FM_MPX_PILOT_THR_HIGH=-21.5dB | No_Inf_Limit, -39.9dB, -39.8dB, ..., -15.0dB, No_Sup_Limit | |
| | | | |
| 81 | ALARM_FM_MPX_PILOT_PROT_THR=-35.0dB | No_Inf_Limit, -99.0dB, -98.0dB, ..., -20.0dB, -19.8dB, -19.6 dB, ..., +12.0dB, No Sup Limit | |
| | | | |

| 82 | ALARM_FM_MPX_RDS_THR_LOW=-28.5dB | No Inf Limit, -39.9dB, -39.8dB, ..., -15.0dB, No_Sup_Limit | |
| 83 | ALARM_FM_MPX_RDS_THR_HIGH=-26.5dB | No_Inf_Limit, -39.9dB, -39.8dB, ..., -15.0dB, No_Sup_Limit | |
| | | | |
| 84 | ALARM_FM_MPX_PEAK_DEV_THR_LOW=No_Inf_Limit | No_Inf_Limit, 1KHz, 2KHz, ..., 150KHz, No_Sup_Limit | |
| 85 | ALARM_FM_MPX_PEAK_DEV_THR_HIGH=90KHz | No_Inf_Limit, 1KHz, 2KHz, ..., 150KHz, No Sup Limit | |
| | | | |
| 86 | ALARM FM MPX ITUB412 THR LOW=No Inf Limit | No Inf Limit, -99.0dB, -98.0dB, ..., -20.0dB, -19.8dB, -19.6 dB, ..., +12.0dB, No_Sup_Limit | |
| 87 | ALARM_FM_MPX_ITUB412_THR_HIGH=No_Sup_Limit | No Inf Limit, -99.0dB, -98.0dB, ..., -20.0dB, -19.8dB, -19.6 dB, ..., +12.0dB, No_Sup_Limit | |
| | | | |
| 88 | ALARM_FM_MPX_DEC_AUDIO_PEAK_THR_LOW=No_Inf_Limit | No_Inf_Limit, -99.0dB, -98.0dB, ..., -20.0dB, -19.8dB, -19.6 dB, ...,+12.0dB, No Sup Limit | |
| 89 | ALARM FM MPX DEC AUDIO PEAK THR HIGH=+3.0dB | No_Inf_Limit, -99.0dB, -98.0dB, ..., -20.0dB, -19.8dB, -19.6 dB, ...,+12.0dB, No_Sup_Limit | |
| | | | |
| 90 | ALARM_FM_MPX_DEC_AUDIO_PEAK_SILENCE_THR=-40.0dB | No Inf Limit, -99.0dB, -98.0dB, ..., -20.0dB, -19.8dB, -19.6 dB, ..., +12.0dB, No_Sup_Limit | |
| 91 | ALARM_FM_MPX_DEC_AUDIO_PEAK_SILENCE_TIME=5sec | 1sec, 2sec, ..., 180sec | |
| | | | |
| 92 | ALARM_MPX_0_PILOT_THR_LOW=-23.5dB | No_Inf_Limit, -39.9dB, -39.8dB, ..., -15.0dB, No Sup Limit | |
| 93 | ALARM_MPX_0_PILOT_THR_HIGH=-21.5dB | No_Inf_Limit, -39.9dB, -39.8dB, ..., -15.0dB, No_Sup_Limit | |
| | | | |
| 94 | ALARM_MPX_0_PILOT_PROT_THR=-50.0dB | No Inf Limit, -99.0dB, -98.0dB, ..., -20.0dB, -19.8dB, -19.6 dB, ..., +12.0dB, No_Sup_Limit | |
| | | | |
| 95 | ALARM_MPX_0_RDS_THR_LOW=-28.5dB | No_Inf_Limit, -39.9dB, -39.8dB, ..., -15.0dB, No_Sup_Limit | |
| 96 | ALARM_MPX_0_RDS_THR_HIGH=-26.5dB | No_Inf_Limit, -39.9dB, -39.8dB, ..., -15.0dB, No Sup Limit | |
| | | | |
| 97 | ALARM MPX 0 PEAK DEV THR LOW=No Inf Limit | No_Inf_Limit, 1KHz, 2KHz, ..., 150KHz, No_Sup_Limit | |
| 98 | ALARM_MPX_0_PEAK_DEV_THR_HIGH=90KHz | No Inf Limit, 1KHz, 2KHz, ..., 150KHz, No Sup Limit | |
| | | | |
| 99 | ALARM_MPX_0_ITUB412_THR_LOW=No_Inf_Limit | No Inf Limit, -99.0dB, -98.0dB, ..., -20.0dB, -19.8dB, -19.6 dB, ...,+12.0dB, No_Sup_Limit | |
| 100 | ALARM_MPX_0_ITUB412_THR_HIGH=No_Sup_Limit | No_Inf_Limit, -99.0dB, -98.0dB, ..., -20.0dB, -19.8dB, -19.6 dB, ..., +12.0dB, No Sup Limit | |
| | | | |
| 101 | ALARM MPX 0 DEC AUDIO PEAK THR LOW=No Inf_Limit | No Inf Limit, -99.0dB, -98.0dB, ..., -20.0dB, -19.8dB, -19.6 dB, ...,+12.0dB, No_Sup_Limit | |
| 102 | ALARM MPX 0 DEC AUDIO PEAK THR HIGH=+1.0dB | No Inf Limit, -99.0dB, -98.0dB, ..., -20.0dB, -19.8dB, -19.6 dB, ...,+12.0dB, No_Sup_Limit | |
| | | | |
| 103 | ALARM_MPX_0_DEC_AUDIO_PEAK_SILENCE_THR=-40.0dB | No_Inf_Limit, -99.0dB, -98.0dB, ..., -20.0dB, -19.8dB, -19.6 dB, ...,+12.0dB, No_Sup_Limit | |
| 104 | ALARM MPX 0 DEC AUDIO PEAK SILENCE TIME=5sec | 1sec, 2sec, ..., 180sec | |
| | | | |
| 105 | AUTO_RDS_DECODER_SOURCE_SEL=Mpx1 | Mpx1, Mpx2, Fm_Mpx, Mpx0 | |

| | | | |
|---|---|---|---|
| 106 | AUTO_TUNER_FREQUENCY=100.80MHz | 87.50MHz, 87.55MHz, ..., 108.00MHz | |
| | | | |
| | [END_AUTOMATIC_MODE_PRESET] | | |
| | | | |
| | | | |
| | [RDS_MASK_SETTINGS] | | |
| | | | |
| 107 | TRAFFIC_ANNOUNCEMENT=On | Off, On | |
| 108 | TRAFFIC_PROGRAM=On | Off, On | |
| 109 | ALTERNATIVE_FREQUENCIES=On | Off, On | |
| 110 | MUSIC_SPEECH=Music | Music, Speech | |
| 111 | DECODER_IDENTIFICATION=Stereo_Static_Pty | - Mono Static Pty,<br>- Stereo Static Pty,<br>- Not Artificial Head Static Pty,<br>- Not_Compressed_Static_Pty,<br>- Mono_Compressed_Static_Pty,<br>- Stereo_Compressed_Static_Pty,<br>- Mono Dynamic Pty,<br>- Not Yet Assigned,<br>- Mono Static Dynamic Pty,<br>- Stereo_Dynamic_Pty,<br>- Not_Artificial_Head_Dynamic_Pty,<br>- Not_Compressed_Dynamic_Pty,<br>- Mono Compressed Dynamic Pty,<br>- Stereo_Compressed_Dynamic_Pty | |
| 112 | PROGRAM_TYPE=News | - NO PROGRAMME TYPE, NEWS,<br>- CURRENT AFFAIRS, INFORMATION,<br>- SPORT, EDUCATION, DRAMA, CULTURE,<br>- SCIENCE, VARIED, POP_MUSIC,<br>- ROCK_MUSIC, EASY_LISTENING_MUSIC,<br>- LIGHT CLASSICAL,<br>- SERIOUS CLASSICAL,<br>- OTHER MUSIC,<br>- WEATHER,<br>- FINANCE,<br>- CHILDRENS PROGS,<br>- SOCIAL AFFAIRS,<br>- RELIGION,<br>- PHONE_IN,<br>- TRAVEL,<br>- LEISURE_&_HOBBY,<br>- JAZZ MUSIC,<br>- COUNTRY MUSIC,<br>- NATIONAL MUSIC,<br>- OLDIES_MUSIC,<br>- FOLK_MUSIC,<br>- DOCUMENTARY,<br>- ALARM TEST,<br>- ALARM | |
| 113 | PROGRAM_SERVICE_NAME="RTL      " | PsName00 | |
| 114 | PROGRAM_IDENTIFICATION=5201 | {16 Bits (4 Digits) Exadecimal Code}<br>(Value 0 tells the system to not perform<br>PI control check over Rds data flux) | |
| | | | |
| | [END_RDS_MASK_SETTINGS] | | |
| | | | |
| | | | |
| | [ALARM_GENERAL_MASK] | | |
| | | | |
| 115 | MAIN_SILENCE=On | Off, On | |
| 116 | MAIN_AUDIO_PEAK=On | Off, On | |
| 117 | MAIN_AUDIO_AVG_PEAK=On | Off, On | |
| 118 | MAIN_AUDIO_RMS=On | Off, On | |
| 119 | MAIN_AUDIO_AVG_RMS=On | Off, On | |
| 120 | MPX1_PILOT=On | Off, On | |
| 121 | MPX1_RDS=On | Off, On | |
| 122 | MPX1_DEVIATION=On | Off, On | |
| 123 | MPX1_ITUBS412=Off | Off, On | |
| 124 | MPX1_PILOT_PROTECTION=Off | Off, On | |
| 125 | MPX1_DECODER_SILENCE=Off | Off, On | |
| 126 | MPX1_DECODER_RMS=Off | Off, On | |
| 127 | MPX2_PILOT=On | Off, On | |
| 128 | MPX2_RDS=On | Off, On | |

| | | | |
|---|---|---|---|
| **129** | MPX2_DEVIATION=On | Off, On | |
| **130** | MPX2_ITUBS412=Off | Off, On | |
| **131** | MPX2_PILOT_PROTECTION=On | Off, On | |
| **132** | MPX2_DECODER_SILENCE=On | Off, On | |
| **133** | MPX2_DECODER_RMS=On | Off, On | |
| **134** | FM_MPX_PILOT=On | Off, On | |
| **135** | FM_MPX_RDS=On | Off, On | |
| **136** | FM_MPX_DEVIATION=On | Off, On | |
| **137** | FM_MPX_ITUBS412=On | Off, On | |
| **138** | FM_MPX_PILOT_PROTECTION=On | Off, On | |
| **139** | FM_MPX_DECODER_SILENCE=On | Off, On | |
| **140** | FM_MPX_DECODER_RMS=On | Off, On | |
| **141** | MPX0_PILOT=On | Off, On | |
| **142** | MPX0_RDS=On | Off, On | |
| **143** | MPX0_DEVIATION=On | Off, On | |
| **144** | MPX0_ITUBS412=Off | Off, On | |
| **145** | MPX0_PILOT_PROTECTION=On | Off, On | |
| **146** | MPX0_DECODER_SILENCE=On | Off, On | |
| **147** | MPX0_DECODER_PEAK=On | Off, On | |
| **148** | RDS_QUALITY=Off | Off, On | |
| **149** | RDS_PI=On | Off, On | |
| **150** | RDS_DI=On | Off, On | |
| **151** | RDS_PTY=On | Off, On | |
| **152** | RDS_TP=On | Off, On | |
| **153** | RDS_MS=On | Off, On | |
| **154** | RDS_PS=On | Off, On | |
| **155** | RDS_TMC=Off | Off, On | |
| **156** | RDS_EON=Off | Off, On | |
| **157** | RDS_AF=On | Off, On | |
| **158** | FM_RDS_QUALITY=Off | Off, On | |
| **159** | FM_RDS_PI=On | Off, On | |
| **160** | FM_RDS_PTY=Off | Off, On | |
| **161** | FM_RDS_TP=Off | Off, On | |
| **162** | FM_RDS_MS=Off | Off, On | |
| **163** | FM_RDS_AF=Off | Off, On | |
| **164** | MPX1_ERRORS=On | Off, On | |
| **165** | MPX2_ERRORS=On | Off, On | |
| **166** | FM_ERRORS=On | Off, On | |
| **167** | MPX0_ERRORS=On | Off, On | |
| **168** | AUDIO_MAIN_ERRORS=On | Off, On | |
| **169** | DECODERS_SYNC=Off | Off, On | |
| **170** | MASTER_SYNC_MISSING=Off | Off, On | |
| **171** | DIFF_MAIN_AUDIO_RMS=Off | Off, On | |
| **172** | DIFF_MAIN_AUDIO_PEAK=Off | Off, On | |
| **173** | SYSTEM_FAILURE=Off | Off, On | |
| **174** | EMERGENCY=Off | Off, On | |
| **175** | SYSTEM_CRITICAL=Off | Off, On | |
| **176** | BACKUP_FAILURE=On | Off, On | |
| **177** | COMMUNICATION_ERRORS=Off | Off, On | |
| **178** | TEMPERATURE=Off | Off, On | |
| | | | |
| | [END_ALARM_GENERAL_MASK] | | |
| | | | |
| | | | |
| | [RDS_UECP_SERVICES] | | |
| | | | |
| **179** | TA_TP_PROPAGATION=On | Off, On | |
| **180** | PS_PROPAGATION=On | Off, On | |
| **181** | RT_PROPAGATION=On | Off, On | |
| **182** | DI_PROPAGATION=On | Off, On | |
| **183** | MS_PROPAGATION=On | Off, On | |
| **184** | PTY_PROPAGATION=On | Off, On | |
| **185** | PI_PROPAGATION=On | Off, On | |
| **186** | TMC_RTPLUS_PROPAGATION=On | Off, On | |
| | [END_RDS_UECP_SERVICES] | | |

# 24 AUTOMATIC WOLF MEASUREMENTS

This section looks at how the Wolf Network measurements and statuses are displayed. It shows the all the device's operating parameters. The final section of the window shows a graphical view of the GP Input and GP Output statuses and the Mask Alarm Reference Bar section provides a graphic display of the control status in a different colour. Red/green shows whether the parameter is valid/invalid.

| | |
|---|---|
| **Main Audio Measurement Module**<br>Source: Decoder Mpx1 - Ref: +0.0 dBu<br>>> Istantaneous Measure:<br>Peak Left: -82.80 dBr   Peak Right: -81.75 dBr<br>RMS Left: -84.63 dBr   RMS Right: -82.69 dBr<br>>> Average Measure:   (last 10 minutes)<br>Peak Left: -83.11 dBr   Peak Right: -82.03 dBr<br>RMS Left: -84.63 dBr   RMS Right: -82.69 dBr | The Source window shows which source must be considered by the Wolf Network as the primary source or MAIN source, with the relative reference and instantaneous measurements and averages calculated in 10-minute slots. |
| **Backup Audio Measurement Module**<br>Source: Decoder Mpx2 - Ref: -21.7 dBFs<br>>> Istantaneous Measure:<br>Peak Left: -79.37 dBr   Peak Right: -79.01 dBr<br>RMS Left: -84.63 dBr   RMS Right: -83.61 dBr<br>>> Backup Audio Sources:<br>Backup Source 1: Dec Mpx2 Status: Available<br>Backup Source 2: Digital2 Status: Available<br>Backup Source 3: Digital1 Status: Available<br>Backup Source 4: Off Status: ----------- | The Backup Audio Measurement Module window displays the Audio Backup sources with their relative ranking (Dec MPX2 - Digital2 - Digital1 - Off) as well as the source status (Available/Not Available) |
| **MPX 1 Measurement Module**<br>Source: MPX1 (Main) - Reference: +0.0 dBu<br>>> Istantaneous Measure:<br>Peak Level: 0.03 KHz<br>Pilot Level: ------ dBr   ------ KHz<br>RDS Level: ------ dBr   ------ KHz<br>MPX Power: ------ dB ITUBS412<br>Pilot Prot.: ------ dBr<br>RMS Left: -84.67 dBr   RMS Right: -84.67 dBr | This window shows the individual measurement of each MPX decoder module. Sources available are: MPX-1, MPX-2, MPX-0, and FM MPX . |
| **RDS Decoder Measurement Module**<br>Source: Tuner at: 101.30 MHz - No RDS Data<br>PI: ------   PS: ------<br>TA: ------   TP: ------<br>M/S: ------   AF: ------<br>EON: ------   TMC: ------<br>DI: ------<br>PTY: ------ | The RDS Decoder Measurement Module window displays the status of the various parameters of the the Radio Data System service within the MPX signal connected to the Tuner. The source in this case could also be changed from Tuner to MPX-1, MPX-2 or MPX-2-0 |

## RDS Tuner

| | |
|---|---|
| Source: **Int. Tuner at: 101.30 MHz - No RDS Data** | |
| PI: | ------ |
| TA: | ------ TP: | ------ |
| M/S: | ------ AF: | ------ |
| PTY: | ------ |

Unlike the case shown above, the RDS tuner with the source set to "Internal Tuner at .." displays the Radio Data System service parameters that come from the Wolf device's internal tuner, set to a user-settable frequency. To set this value (frequency expressed as MHz), see the previous section (parameter **106**)

## Time Slot Measurement Module

| Slot Time: | **Start at [--:--] -- End at [--:--]** | |
|---|---|---|
| **>> Main Audio:** | | |
| Source: | **Analogic 1** | |
| Peak Left Max: | ------ **dBr** | Peak Right Max: ------ **dBr** |
| RMS Left Max: | ------ **dBr** | RMS Right Max: ------ **dBr** |
| Diff. RMS Left: | ------ **dB** | Diff. RMS Right: ------ **dB** |
| Diff. Peak Left: | ------ **dB** | Diff. Peak Right: ------ **dB** |
| **>> Backup Audio:** | | |
| Backup Source 1: | **Off** Status: | ----------- |
| Backup Source 2: | **Off** Status: | ----------- |
| Backup Source 3: | **Off** Status: | ----------- |
| Backup Source 4: | **Off** Status: | ----------- |
| **>> MPX 1:** | | |
| Pilot Min: | ------ **dBr** | RDS Min: ------ **dBr** |
| Peak Dev Max: | ------ **KHz** | ITUBS412 Max: ------ **dBr** |
| Pilot Prot. Max: | ------ **dBr** | |
| RMS Left Max: | ------ **dBr** | RMS Right Max: ------ **dBr** |
| **>> MPX 2:** | | |
| Pilot Min: | ------ **dBr** | RDS Min: ------ **dBr** |
| Peak Dev Max: | ------ **KHz** | ITUBS412 Max: ------ **dBr** |
| Pilot Prot. Max: | ------ **dBr** | |
| RMS Left Max: | ------ **dBr** | RMS Right Max: ------ **dBr** |
| **>> FM MPX:** | | |
| Pilot Min: | ------ **dBr** | RDS Min: ------ **dBr** |
| Peak Dev Max: | ------ **KHz** | ITUBS412 Max: ------ **dBr** |
| Pilot Prot. Max: | ------ **dBr** | |
| Peak Left Max: | ------ **dBr** | Peak Right Max: ------ **dBr** |
| **>> MPX 0:** | | |
| Pilot Min: | ------ **dBr** | RDS Min: ------ **dBr** |
| Peak Dev Max: | ------ **KHz** | ITUBS412 Max: ------ **dBr** |
| Pilot Prot. Max: | ------ **dBr** | |
| Peak Left Max: | ------ **dBr** | Peak Right Max: ------ **dBr** |
| **>> Temperature:** | | |
| Temperature: | ------° C / ------° F | |

In this panel, you can see the last slot of measurements made on a variety of audio sources entering the Wolf Network device. Each measurement slot is 10 minutes in length and the data is stored inside the Wolf Network for a given period (usually 1 year) then automatically deleted or sent via network to the Wolf Ranger or Manager application. Ranger then collects all the data received from the various devices, such as the Tiger Shark, the Wolf Network and all SNMP devices connected to generate reports, statistics and alarms.

The Wolf Network Remoter screen to the left, also provides a device operation summary, as the Main Audio is shown with the Source and the relative measurements and the various Backup Audios with their Statuses (Green Area)

As far as the rest of the measurements of the MPX-1, MPX-2, FM MPX and MPX-0 are concerned, there are various parameters visible in this area too (blue area). Enabling the display and setting the trigger threshold values are both possible using the WOLF NETWORK CONFIGURATION IMPORT/EXPORT FILE option outlined in the previous section. Last of all, the temperature is shown, and as for the above parameters, you can set the trigger thresholds to apply in the event that the value exceeds certain limits.

## 25 WOLF MEASUREMENT DATABASE (MEASURE DB)

This panel displays a series of parameters measured by the Wolf Network. This section is basically divided into two columns, with the Current Time Slot Measurement on the right-hand side and the Last Error Slot Measurement Module on the left. The Current Time Slot Measurement Module section provides measurements taken at a given slot time, which is normally every 10 minutes. The following image shows that the slot started on 17/08/2011 at 16:10 and at ended at 16:20 and that there are Failure statuses (a series of errors in a slot that have invalidated the measurement).



The right-hand section of the panel contains the Last Error Slot Measures.

## 26 OFFLINE WOLF DATA

This part of the software displays all the measurements recorded by the Wolf Network **also** in conjunction with a Wolf Master device located at the head of the network.  The Wolf Master sends, offline (i.e. without the presence of Left + Right Audio on the transmission chain), a series of audio tones at various frequencies and levels that, once received by the Wolf Network devices located at the end of the transmission chain, i.e. located on the transmitter site, allow the user to determine quality of the entire audio transmission and distribution chain.

This part of the software only works with the Wolf Master, as it performs comparative tests, i.e. since the quality of various audio signals transmitted from the head of the network is known, the quality thereof at the end of the same network can also be known.  By comparing the signals sent with those received, it is therefore possible to establish the audio transit quality.

## 27 WOLF WEB PAGE (WEBSERVER)

Within the Wolf Network there is a web server which allows the user to display the Wolf Network measurements and status via an html page viewable in any web browser. To access the Wolf Network web server, simply key the IP address of the Wolf Network you want to monitor into the navigation bar of Web browser. If the Wolf is located in a private LAN, simply enter the address in the navigation bar. If the device you want to monitor is remote and connection via the Internet (WAN) is a possibility, then you will need to enter both the public address and the port assigned to the device and managed by the router. The syntax is generally PUBLIC IP: PORT. Once the target device is reached, a password may be requested; if not, you will be able to view the device's measurements and status.

# 28 TECHNICAL SPECIFICATIONS

## 28.1 GENERAL TECHNICAL SPECS

| GENERAL | |
| --- | --- |
| Dimensions | 2 standard 19" Rack Unit |
| Weight | around 6.0 Kg |
| ~ AC Rate | 230 Vac 50 Hz / 115 Vac 60 Hz ±10% |
| Power consumption | 80 VA |
| Type of power supply | Transformer- based |
| AC connector | IEC, with detachable 3-wire power cord. EMI-suppressed |
| Processing architecture | fully digital. Based on DSP 24bit/100Mhz. Signal processing is performed by phase linear filters. |
| Operating temp. range | - 5 to + 50 °C |

| AC MAINS FUSE | |
| --- | --- |
| Ratings | 250 mA T (for 230 Vac), 500 mA T (for 115 Vac) |
| Dimensions | 5 x 20 mm glass tube |
| Type | Timed (slow blow) |

| COMMUNICATION | |
| --- | --- |
| Serial Ports | 3 x RS232 optoinsulated or 2 x RS232 + 1 x RS485 (option). Serial Port 1 is replicated on Front Panel for easy connection. |
| Serial Port Baud Rate | 1200 – 2400 – 4800 – 9.600 – 19.200 – 38.400 Baud |
| Dial-Up modem | Serial Port 1 supports dial-up modems. |
| Ethernet | 10Mb/100Mb BaseT Ethernet on RJ45 connector |
| Supported Protocols | - SNMP (Simple Network Management Protocol)<br>- UECP (Universal Encoder Communication Protocol) 6.02 SPB 490<br>- TCP/IP,<br>- NTP (Network Time Protocol)<br>- dedicated ASCII protocol to interface to radio automation systems |
| Communication tools | - integrated Web Server,<br>- dedicated Pc Control Software,<br>- textual Configuration Editor |

| AUDIO MODULE | |
| --- | --- |
| Assignable sources | Primary Audio , Reserve Audio, Primary Digital Audio, Reserve Digital Audio . Mutually exclusive selection |
| Measurements performable simultaneously | - RMS power (integration time. 300 msec)<br>- RMS power over a given period<br>- Peak/Peak (hold integration time. 500 msec)<br>- Peak/Peak over a given period |
| Audio Input Bandwidth | 20 kHz |
| Audio Input Ripple | 0.05 dB |
| Rated operating levels of reference | from -6.0dBu to +13.0 dBu |
| Typical dynamics of measurements with respect to reference levels | -85 dB (reference at +6 dBm) |
| Measurement accuracy | 0.1 dB (0.01dB reading resolution) |

| MPX MEASUREMENT MODULE | |
| --- | --- |
| Assignable sources | MPX-1, MPX-2, Internal Tuner, External Tuner |
| Measurements performable simultaneously | Pilot level, RDS signal level, instantaneous peak deviation, signal power according to standard ITU B412 |
| MPX Input Bandwidth | 59 kHz |
| MPX Input Ripple | 0.002 dB (200Hz-53kHz), Ripple=0.1dB (40Hz-58kHz) |
| Rated operating levels of reference | from -6.0dBu to +13.0 dBu |
| Typical dynamics of measurements with respect to reference levels | -88 dB (reference at +6dBu) |
| Measurement accuracy | 0.1 dB (reading resolution 0.01dB) |

| STEREOPHONIC MPX DECODER MODULE | |
| --- | --- |
| Assignable sources | MPX-1, MPX-2, Internal Tuner, External Tuner |
| Type of decoding | DSP digital |
| Separation (with base bandwidth input) | 58dB (500Hz-8kHz) Above 45dB over entire bandwidth |
| Separation (with integrated tuner) | Above 40dB at 1kHz. 35dB between 100Hz and 12kHz. |
| Pilot hook-up time | < 300msec |

| | |
|---|---|
| **De-emphasis** | 502usec, 75usec, available on decoded signal |
| **Filtering** | Very fast filtering that ensures accurate separation measurements even in the presence of SCA or RDS signals. |
| **Accuracy** | 0.1dB; reading on web and SNMP with 0.01dB resolution |
| **INTEGRATED TUNER MODULE** | |
| **Reception frequency range** | 87.5MHz – 108.0MHz (Step at 50kHz) |
| **Sensing capacity** | 25dBuV (60dBuV – 100dBuV optimal reception) |
| **S/N** | 64dB (15kHz Mono, De-emphasis 50usec, ref. mod 75kHz) |
| **S/N** | 62dB (15kHz Mono, De-emphasis off, ref. mod 75kHz) |
| **S/N** | 56db (15kHz Single stereo channel, De-emphasis 50uSec, ref. mod 75kHz) |
| **THD+N (mono, 50usec)** | 400Hz (0.3%), 1kHz (0.3%), 5kHz (0.8%), 7kHz (1.0%), 10kHz(0.1%), 15kHz(0.1%) |
| **THD+N (Stereo, 50usec)** | 400Hz (0.6%), 1kHz (0.6%), 5kHz (1.6%), 7kHz (2.0%), 10kHz(0.1%), 15kHz(0.1%) |
| **Measurements performable** | Peak, level and power on FM signal and RDS data decoding. |
| | |

# 29 APPENDIX A – CONNECTOR PINOUT

## 29.1 RS232 CONNECTION AND PINOUT

| PORT 1 | | PORTS 2,3,4 | |
|---|---|---|---|
| **2** | Tx | **2** | **Tx** |
| **3** | Rx | **3** | **Rx** |
| **4** | DTR | **4** | **/** |
| **5** | GND | **5** | **GND** |
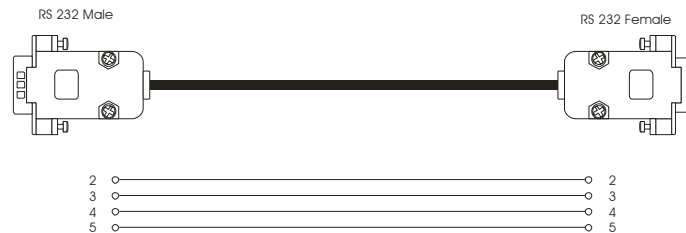


**The PC connections require standard pin-to-pin (i.e. not crossover) serial cables.** For correct operation, the connection cables must be no longer than 20 m.

Ports 2 and 3 use only the Tx, Rx and GND signals for the PC connection, while Port 1 also supports the DTR signal (Data Terminal Ready) used for modem connection. For communication purposes, the port speed must be similar.

## 29.2 ANALOG AND DIGITAL AUDIO CONNECTION
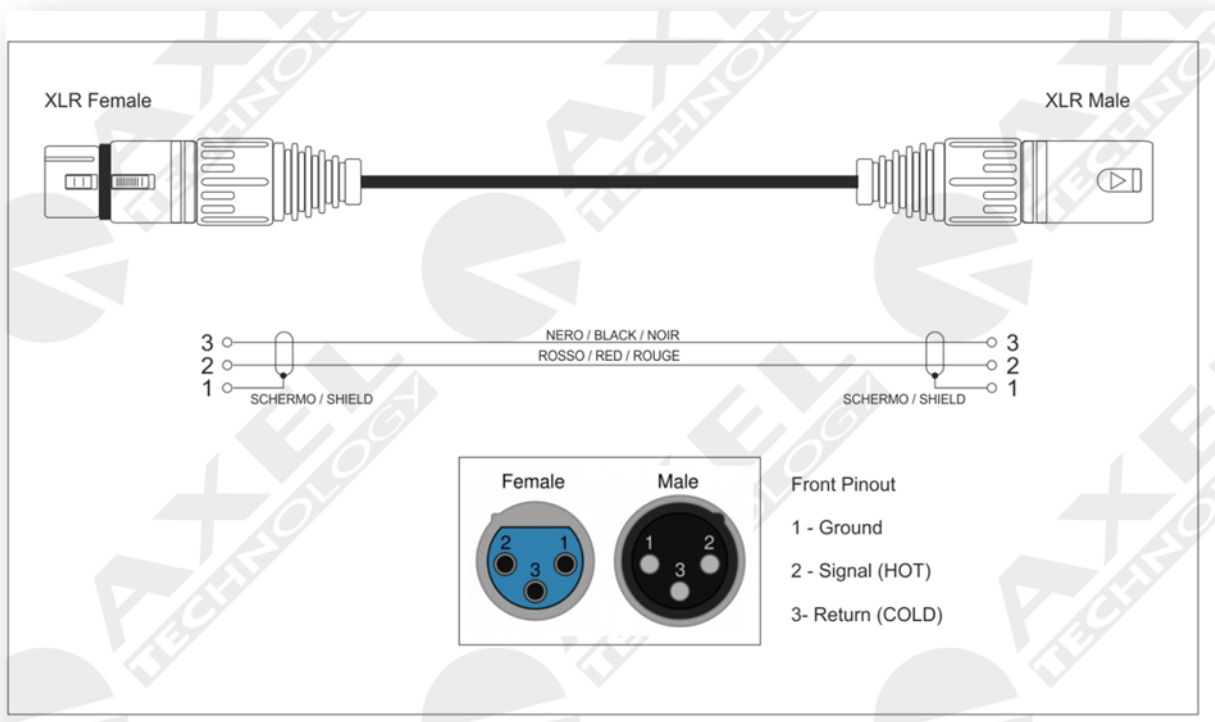
# 30  OPTO RELAY PORT

The Remote Opto connector provides four General Purpose inputs and four General Purpose decoupled binary outputs.
Each input features non-polarised photo-couplers, with a 470 ohm protective series resistor fitted inside.
The maximum current applicable at each input is 15 mA and the maximum current that can flow at each output (phototransistor collectors) is 10 mA. The dc voltage is 9 volts, non-stabilised.
The output is protected by a 300 mA self-resetting fuse and a 10 ohm internal protective resistor.

**OPTO RELAY INTERFACE PORT 1 & OPTO RELAY INTERFACE PORT 2**
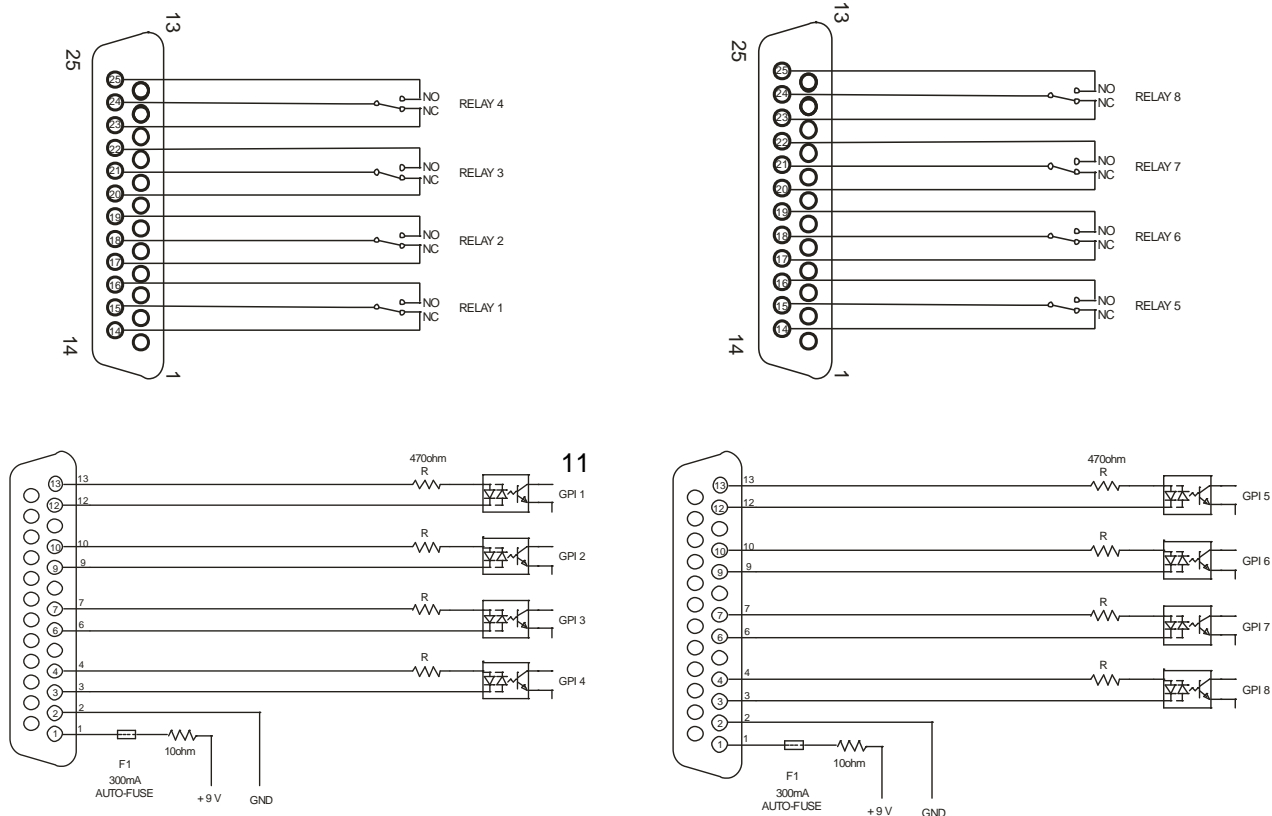


Pins 3, 4, 6, 7, 9, 10, 12 and 13 are connected to the non-polarised optoisolators.
A source + 9 V dc limited current is available on pin 1 using an auto-fuse and a 10 ohm resistor.

## 30.1 RELAY CONNECTION

The maximum current supported by the relays (switching current) is 1A, while the maximum voltage is 30 V. <u>The individual relays are assigned by the software</u>

The dc voltage is 9 volts, non-stablised. The relative output is protected by a 300 mA self-resetting fuse. The connector features markings showing the COMMON, NORMALLY CLOSED and NORMALLY OPEN contacts for four SPDT relays.
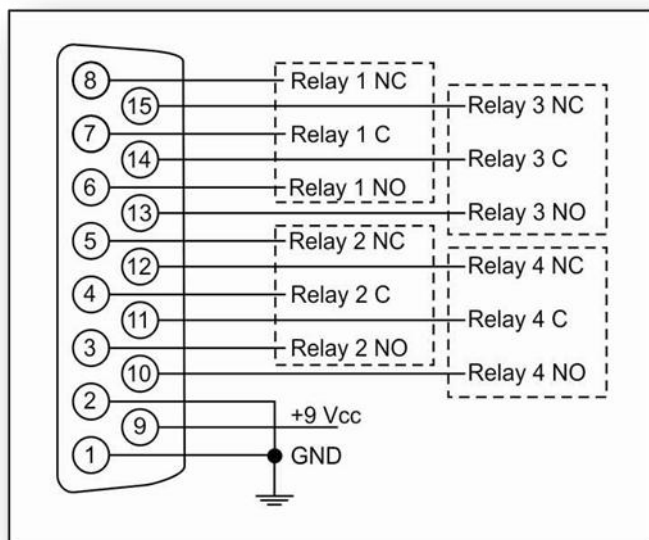


Relay 4 can also be used as an indicator of the presence of the 5 volts DC internal power supply branch.

An internal jumper (J1) allows you to assign the relay to normal GPO reporting or to detection of the presence of power (PWR position: . the relay remains closed as long as the power supply is present, therefore the opening of the relay indicates an irregularity in the power supply )

## 30.2 MPX CONNECTORS



The MPX-1 and MPX-2 connectors are used for connection to composite signals with a bandwidth of up to 59 KHz on which to perform the measurements.

These are usually connected to the Stereo Encoder outputs.

The **EXT MPX** output is dedicated to the connection of an external tuner MPX output, to use as an alternative to the Wolf device's internal tuner.

Input impedance: 50 Ohm.

Please refer to the section on Manual/Auto operating modes with regards to the selection of the input used for the measurements.

The **Antenna** connector is dedicated to the connection to the antenna for the built-in tuner.

## 30.3 WOLF DEVICE ANALOG AND MPX BREAK-OUT BOX (WLF-BBAM)

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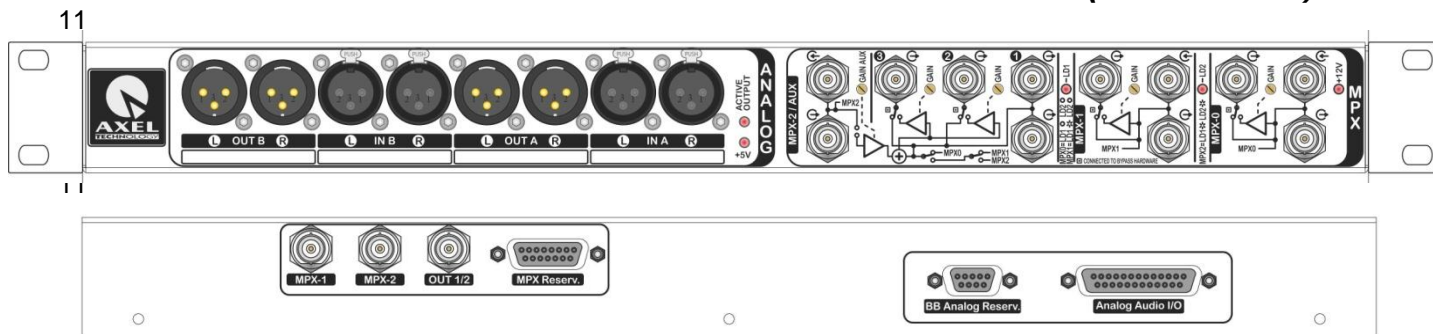
The analog Breakout Box is divided into two sections:
The **ANALOG** section (12 right-hand MPX section BNC connectors)
**MPX** section (made up of the 8 left-hand male XLR connectors)

## 30.4 ANALOG SECTION

The **ANALOG** section features:
- transformer-coupled input A
- transformer-coupled input B
Electronically balanced output (OUT1 - A)
- electronically balanced replica (OUT1 - B) of output OUT1-A

A relay-based hardware bypass system (see Relay1, Relay2, and Relay3 and Relay4 in figure) is used to establish direct physical contact between inputs and outputs in the event of a power failure.  This is done to prevent interruptions in the transmission chain in the event of a power failure.  In particular, the bypasses performed in the event of power failure are as follows:

- RH output OUT1 A – with RH input IN A
- LH output OUT1 A – with LH input IN A
- RH output OUT1 B – with RH input IN B
- LH output OUT1 B – with LH input IN B

The **MPX** section features:
The **MPX** Breakout Box with 12 BNC connectors.  it is connected to the WOLF device via two inputs, MPX-1 and MPX-2 on the central unit and via a dedicated cable for the BB MPX connector.  As the block diagram below shows, the Breakout Box features the same two inputs, MPX-1 and MPX-2, already featured on the rear panel of the Wolf, with the addition of a foldback output for each of them (i.e. a replica signal of the input signal buffered independently).  In addition, the Breakout Box features an MPX output associated, via internal relay, to the MPX-1 input or the MPX-2 output, in conjunction with any AUX signal that might be present.
11
In the event of power failure, a relay establishes a direct connection (via hardware bypass) between the AUX input and the aforesaid output. Finally, the Breakout Box has two equivalent test outputs, which repeat the signal available at the Out MPX output.

Each of the two input sections (the sections dedicated to connection to the signal to be distributed) provides locally, in turn, a buffered output with adjustable level via trimmer and a second non-buffered (passive) output, which is useful for direct monitoring of the signal injected at the input. N.B: the application of a load signal to this output can have direct effects on the signal present at the input connector. The buffered output is equipped with a relay hardware bypass circuit that connects 'mechanically' to the input connector in the event of a power failure.
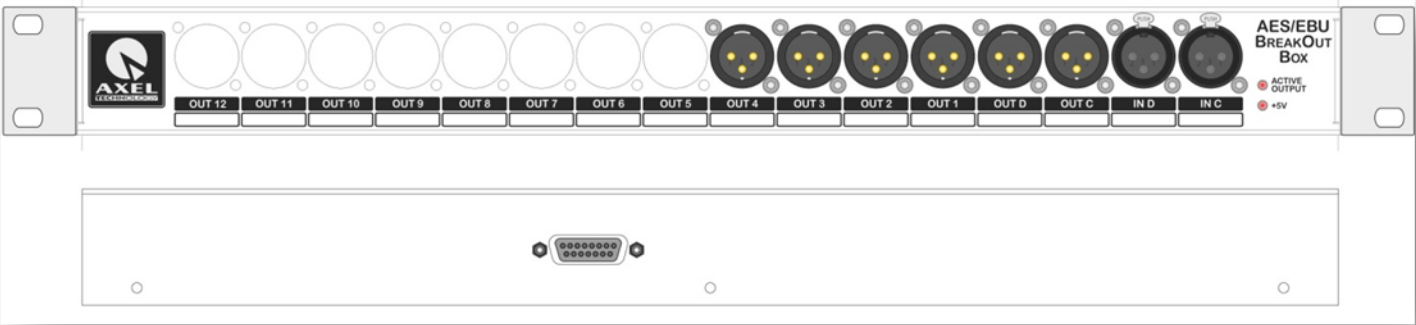
## 30.5 WOLF DEVICE ANALOG BREAKOUT CABLE
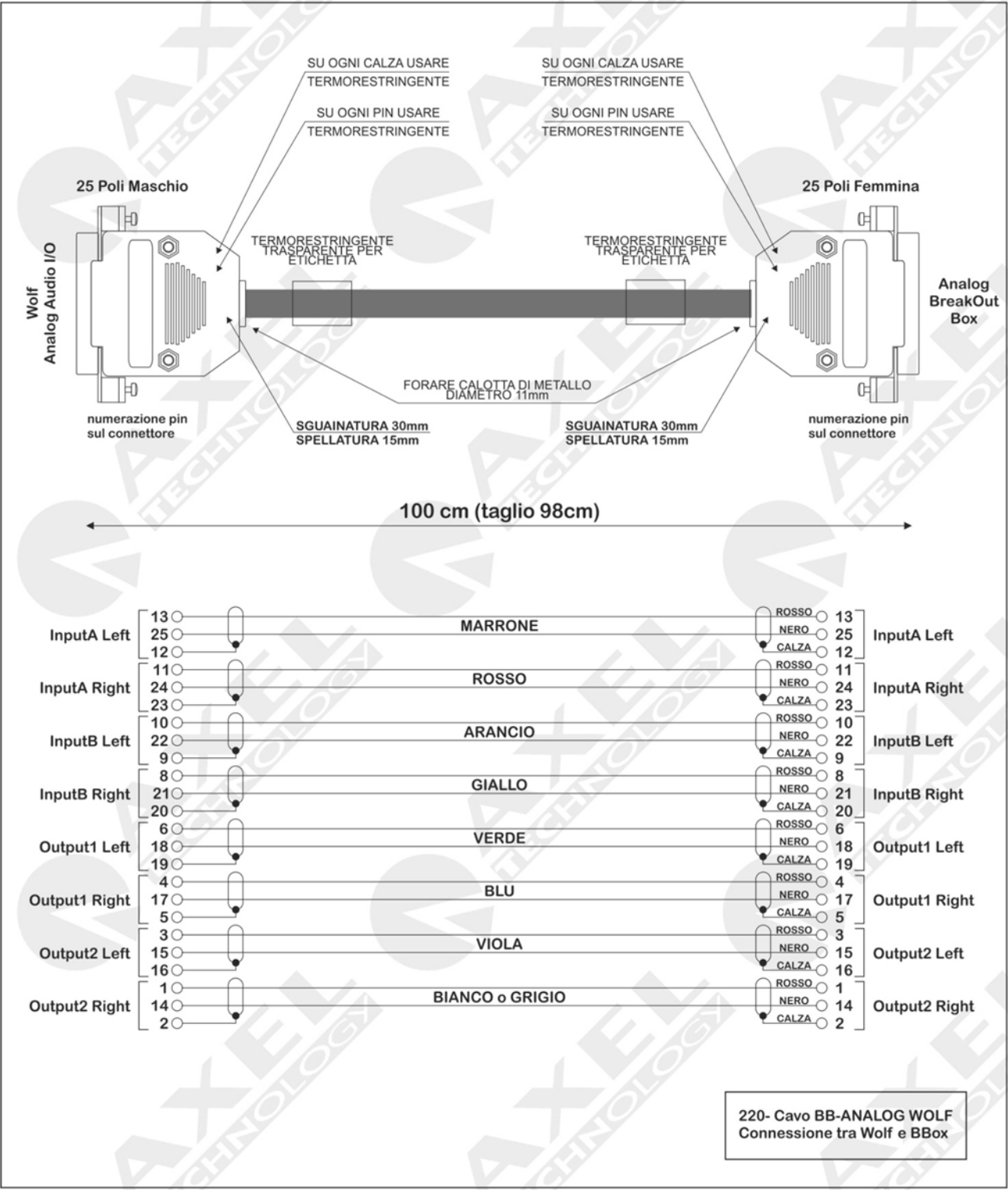


This cable is used to connect the Analog Breakout Box and the MPX (WLF-BBAM) to the WOLF device.
This cable is supplied with the Breakout Box kit.

## 30.6 WOLF DEVICE ANALOG BREAKOUT CABLE (WLF-ADPTA)



If you do not have the Wolf Digital Breakout Box, you can use this cable, which has two Digital AES/EBU inputs with 110 ohm impedance. The digital outputs are also Digital AES/EBU with 110 ohm impedance, but since they do not use the Breakout Box, the audio and hardware bypass function is lost in the event of a fault.
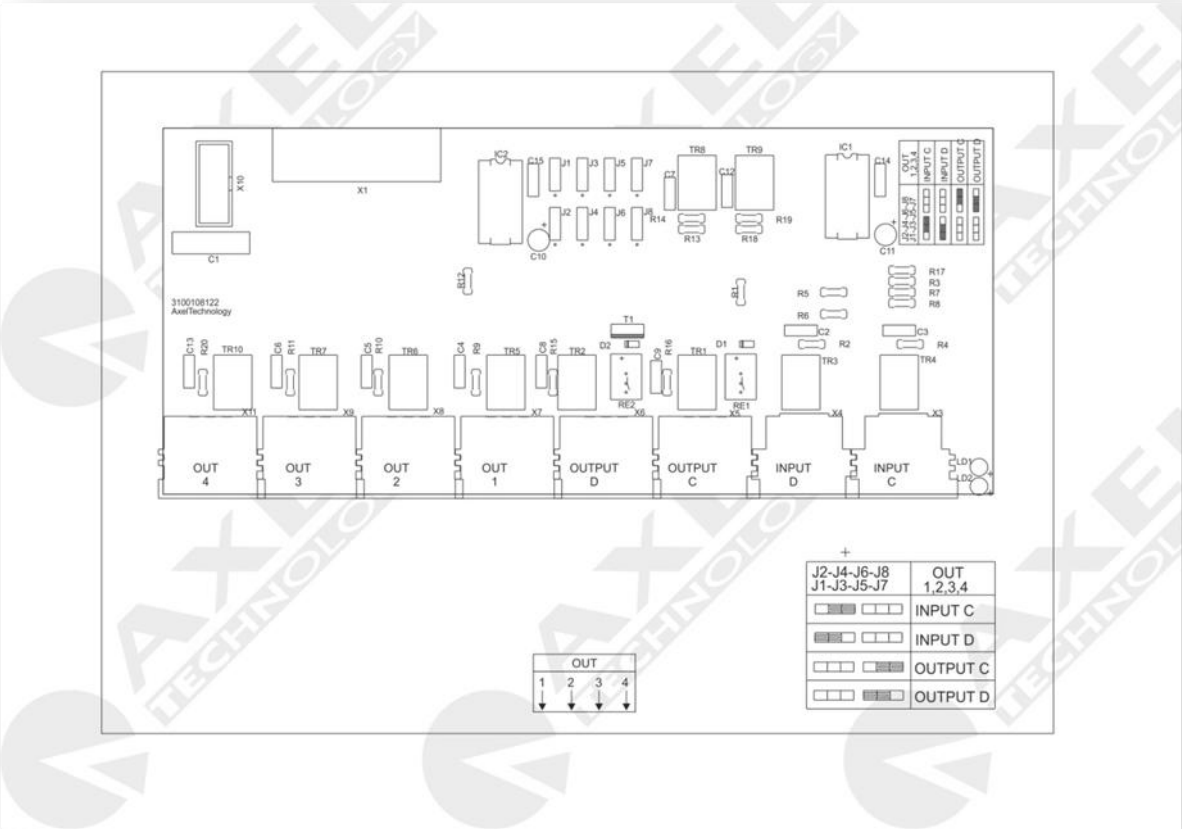
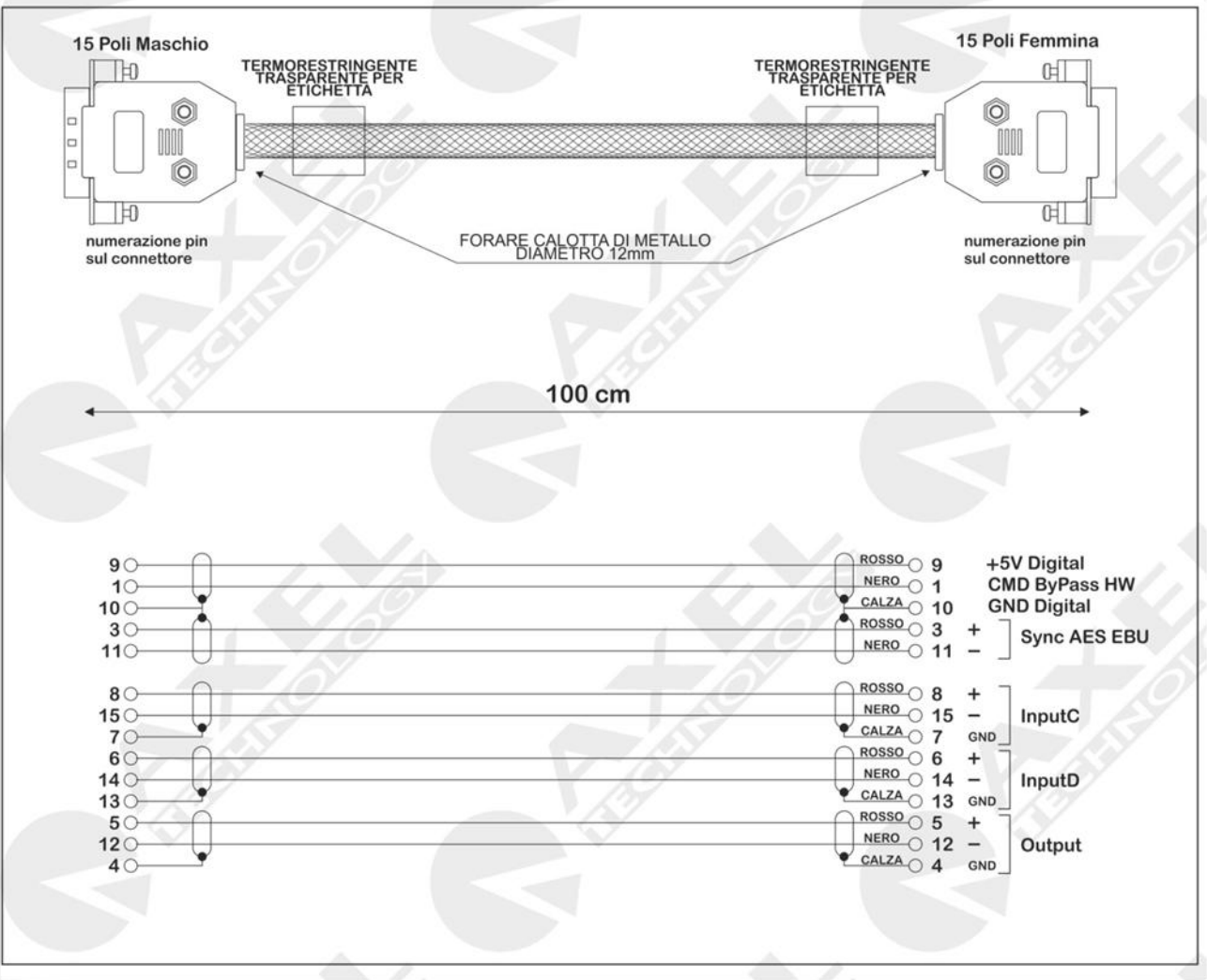## 30.7 WOLF DEVICE DIGITAL BREAKOUT BOX (WLF-BBD)



The picture above shows the layout of the digital inputs and outputs. As regards the use of outputs 1-2-3-4 ( OUT 1, OUT 2, OUT 3, OUT 4), these can be fully configured as required; the default jumper settings inside the Breakout Box are such that these always reproduce OUT C.

All inputs and outputs are transformer de-coupled, with a characteristic impedance of 110 ohms.
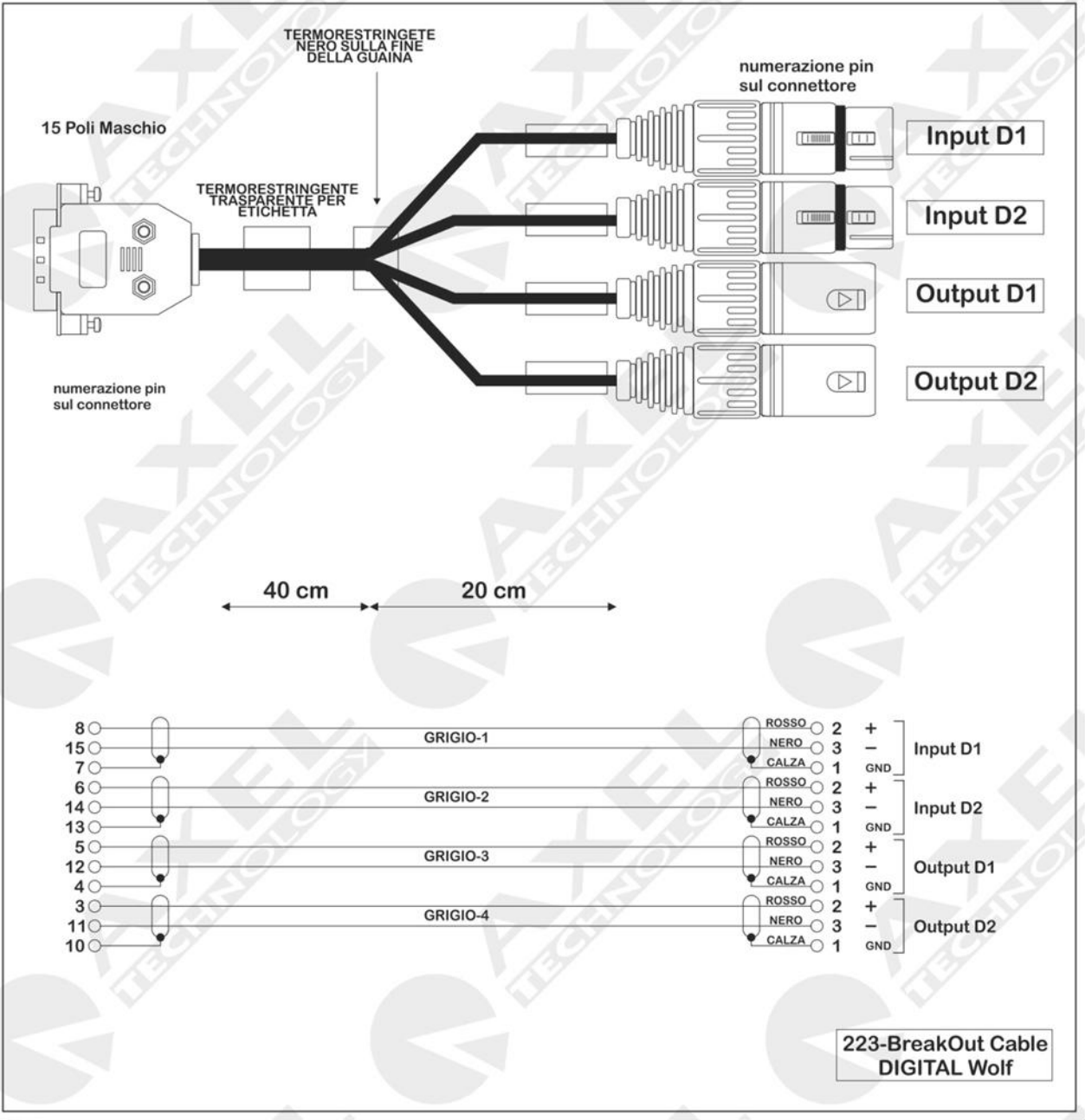


They can also be configured as copy of the INPUT C or INPUT D signal by modifying the internal jumpers

## 30.8 WOLF DEVICE DIGITAL BREAKOUT CABLE



This cable is used to connect the Digital Breakout Box and the MPX (WLF-BBD) to the WOLF device. This cable is supplied with the Breakout Box kit.

## 30.9 WOLF DEVICE DIGITAL BREAKOUT CABLE (WLF-ADPTD)



If you do not have the Wolf Digital Breakout Box, you can use this cable, which has two Digital AES/EBU inputs with 110 ohm impedance. The digital outputs are also Digital AES/EBU with 110 ohm impedance, but since they do not use the Breakout Box, the audio and hardware bypass function is lost in the event of a fault.

## 31 WEEE Directive – Informativa RAEE

11In line with EU Directive 2002/96/EC for waste electrical and electronic equipment (WEEE), this electrical product must not be disposed of as unsorted municipal waste. Please dispose of this product by returning it to the point of sale or to your local municipal collection point for recycling.

In Übereinstimmung mit der Richtlinie 2002/96/EG des Europäischen Parlaments und des Rates über Elektro- und Elektronik-Altgeräte (WEEE) darf dieses Elektrogerät nicht im normalen Hausmüll oder dem Gelben Sack entsorgt werden. Wenn Sie dieses Produkt entsorgen möchten, bringen Sie es bitte zur Verkaufsstelle zurück oder zum Recycling-Sammelpunkt Ihrer Gemeinde.

Conformément à la Directive 2002/96/EC sur les déchets d'équipements électriques et électroniques (DEEE), ce produit électrique ne doit en aucun cas être mis au rebut sous forme de déchet municipal non trié. Veuillez vous débarrasser de ce produit en le renvoyant à son point de vente ou au point de ramassage local dans votre municipalité, à des fins de recyclage.

In navolging van richtlijn 2002/96/EG van het Europees Parlement en de Raad betreffende afgedankte elektrische en elektronische apparatuur (AEEA) mag dit elektrische product niet als ongescheiden huisvuil worden weggedaan. Breng dit product terug naar de plaats van aankoop of naar het gemeentelijke afvalinzamelingspunt voor recycling.

In ottemperanza alla Direttiva UE 2002/96/EC sui rifiuti di apparecchiature elettriche ed elettroniche (RAEE), questo prodotto elettrico non deve essere smaltito come rifiuto municipale misto. Si prega di smaltire il prodotto riportandolo al punto vendita o al punto di raccolta municipale locale per un opportuno riciclaggio.

De conformidad con la Directiva 2002/96/CE de la UE sobre residuos de aparatos eléctricos y electrónicos (RAEE), este producto eléctrico no puede desecharse con el resto de residuos no clasificados. Deshágase de este producto devolviéndolo al punto de venta o a un punto de recogida municipal para su reciclaje.

I henhold til EU-direktiv 2002/96/EF om affald af elektrisk og elektronisk udstyr (WEEE) må dette udstyr ikke bortskaffes som usorteret husholdningsaffald. Bortskaf dette produkt ved at returnere det til salgsstedet eller til det lokale indsamlingssted, så det kan genbruges.

I linje med EU-direktiv 2002/96/EG om avfall som utgörs av eller innehåller elektriska eller elektroniska produkter (WEEE) får denna elektriska produkt inte bortskaffas som osorterat kommunalt avfall. Bortskaffa den i stället genom att lämna in den på försäljningsstället eller din lokala återvinningsstation.

EU:n sähkö- ja elektroniikkalaiteromudirektiivin (2002/96/EY) mukaisesti tätä elektroniikkalaitetta ei saa laittaa lajittelemattoman yhdyskuntajätteen sekaan. Hävitä laite palauttamalla se ostopaikkaan tai viemällä se elektroniikkaromun keräyspisteeseen.

De acordo com a Directiva Europeia 2002/96/EC sobre resíduos sólidos de equipamento eléctrico e electrónico (WEEE), este produto eléctrico não pode ser deitado fora juntamente com o lixo municipal indiferenciado. Por favor, no final da vida útil deste produto, devolva-o ao estabelecimento de aquisição, ou entregueo no local de recolha apropriado para reciclagem designado pelo seu município.

V souladu se smrnicí EU . 2002/96/ES o odpadních elektrick ch a elektronick ch zaYízeních (OEEZ) se tento elektrick v robek nesmí likvidovat jako netYídn komunální odpad. PYi likvidaci tento v robek vrat'te prodejci nebo ho odevzdejte k recyklaci do komunálního sbrného zaYízení.

Vastavalt EL direktiivile 2002/96/EÜ, mis käsitleb elektri- ja elektroonikaseadmete jäätmeid (WEEE), ei või antud toodet visata majapidamisjäätmete hulka. Palun tagastage antud toode taaskasutamise eesmärgil müügipunkti või kohaliku piirkonna jäätmekogumise punkti.

V súlade so smernicou 2002/96/ES o odpade z elekrick ch a elektronick ch zariadení (OEEZ) sa toto elektrické zariadenie nesmie odstranovat' ako netrieden komunálny odpad. V robok odstránte jeho vrátením v mieste nákupu alebo odovzdaním v miestnom zbernom zariadení na recyklovanie.

## *32 WARRANTY*

The manufacturer offers a year of warranty ex Works.Do not open the equipment. If the seals are broken, the warranty is void.The manufacturer shall not be liable for damages of any kind due, or related, to wrong use of the product.

## *33 DECLARATION OF ROHS CONFORMITY*

To minimize the environmental impact and take more responsibility to the earth we live, in accordance with European Union Directive 2002/95/EC, known commonly as RoHS (*Restriction of Hazardous Substances*),

We herewith declare,

**Axel Technology srl**
**Via Caduti di Sabbiuno 6/F**
**40011 Anzola Emilia – Bologna - Italy**

that the product listed below complies with the requirements of Directive 2002/95/EC, Article 4, paragraph 1 with reference to hazardous chemical substances:

> *Lead (Pb)*
> *Hexavalent Chromium*
> *(CrVI)*
> *Mercury (Hg)*
> *PBB (Flame Retardant)*
> *PBDE (Flame Retardant)*
> *Cadmium (Cd)*

Product Description: **WOLF**

| Authorized Company Representative: | Title of Signatory: | Date: |
|---|---|---|
| | Christian Sighinolfi<br>R&D Technical Manager | 21 October 2011 |